ORDER No.AD0109130C1

A6

Service Manual

Compact Disk Recorder

SL-PR300

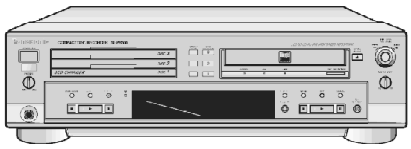
Mechanism unit:FMU-ZC4-1M (CD Changer),EMU-R7-1M (CD-R)

Colour

(S).....Silver Type

Area

PP.....U.S.A. and Canada.



SPECIFICATIONS

Specifications

● **CD Player Section**

System	**Compact disc digital audio system**
Pitch control	**±12%**
Signal-to noise ratio	**97 dB (1 kHz)**
Dynamic range	**93 dB (1 kHz)**
Frequency response	**20 Hz - 20 kHz (±1 dB)**
Wow and flutter	**Less than measurable limit**
Total harmonic distortion	**0.0063 % (1kHz)**

● **CDR Section**

System	**Compact disc digital audio recording system**
Sampling frequency	**44.1 kHz**
Frequency response	**20 Hz - 20 kHz (±1 dB)**
Inputs: Analog (LINE IN)	**300 mV (Full scale -12 dB)/ 50 k Ω**
Digital	**OPTICAL × 1** **COAXIAL × 1** **Sampling frequency: 32 kHz, 44.1 kHz, 48 kHz**
Signal-to-noise ratio	**94 dB (during playback, 1 kHz)**
Dynamic range	**91 dB (during playback, 1 kHz)**
Wow and flutter	**Less than measurable limit**
Total harmonic distortion	**0.0063 % (during playback, 1 kHz)**

● **Timer Section**

Timer system	**DAILY TIMER operation (ON/OFF timer)** **ONCE TIMER operation (ON/OFF timer)**
Clock display	**12-hour display**

● **Common Specifications**

Output terminals:	
Analog	**LINE × 1 set, 2 V/ 5 k Ω (Full scale)** **Headphones × 1.4 mW/ 32 Ω**
Digital	**OPTICAL × 1** **COAXIAL × 1**
Power requirements	**AC 120 V, 60 Hz**
Power consumption	**40 W power ON mode** **5 W STANDBY mode**
Dimensions (W × H × D)	**436 mm × 128 mm × 337 mm (17-3/16 in. × 5 in. × 13-1/4 in.)**
Mass	**6.3 kg (13.9 lbs)**

Notes:

-Specifications are subject to change without notice.

-Mass and dimensions are approximate.

© 2001 Matsushita Electric Industrial Co., Ltd. All rights reserved.

Unauthorized copying and distribution is a violation of law.

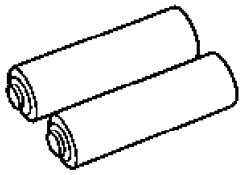
⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

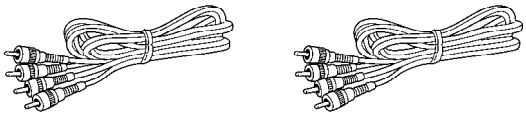
Panasonic®

1. Accessories

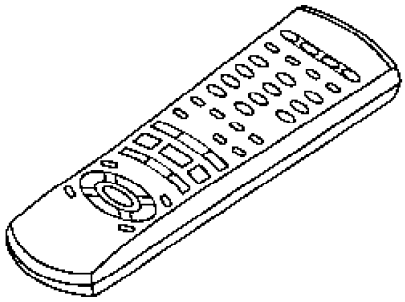
- Remote control batteries.....2pcs.
[R6/LR6 (AA, UM-3)]
Note:These are available on sales route.



- Stereo phono cables.....2pc.
(RJL2P004B08A)



- Remote control transmitter.....1pc.
(RAK-PR300)



2. Safety Precaution

(This "Safety Precaution" is applied only in U.S.A..)

1. **Before servicing, unplug the power cord to prevent an electric shock.**
2. **When replacing parts, use only manufacture's recommended components for safety.**
3. **Check the condition of the power cord. Replace if wear or damage**

is evident.

4. **After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields etc..**
5. **Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.**

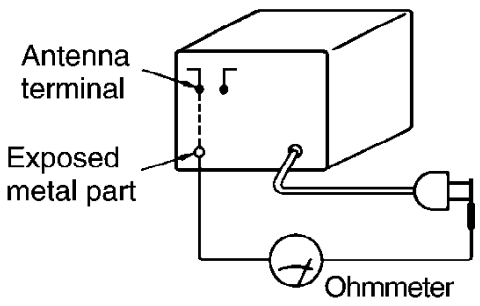
2.1. Insulation resistance test

1. **Unplug the power cord and short the two prongs of the plug with a jumper wire.**
2. **Turn on the power switch.**
3. **Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet parts, such as screw heads antenna, control shafts, handle brackets, etc.. Equipment with antenna terminals should read between 3 M Ω - 5.2M Ω to all exposed parts. (Refer to Fig. 2-1.) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Refer to Fig. 2-2.)**

Note:
Some exposed parts may be isolated from the chassis by design. These will read infinity.

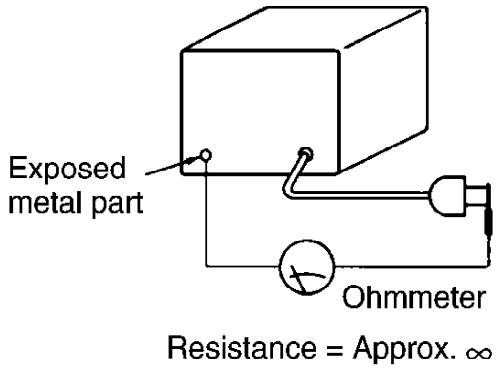
4. **If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.**

Fig. 2-1



Resistance = 3 MΩ — 5.2 MΩ

Fig. 2-2



3. Precaution of Laser Diode

Caution:

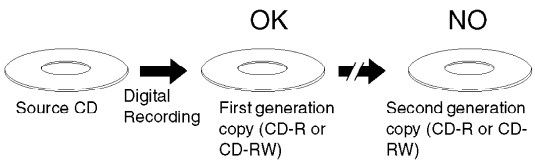
This unit utilizes a class 1 laser. Invisible laser radiation is emitted from the optical pickup lens when the unit is turn on:

1. **Do not look directly into the pickup lens.**
2. **Do not use optical instruments to look at pickup lens.**
3. **Do not adjust the preset variable resistor on the optical pickup.**
4. **Do not disassemble the optical pickup unit.**
5. **If the optical pickup is replaced, use the manufacture's specified replacement pickup only.**
6. **Use of control or adjustment or performance of procedures other than those specified herein may result in hazardous radiation exposure.**

4. CD and CDR Messages

4.1. SCMS (Serial Copy Management System)

Due to copyright and other considerations, the following restriction is now in place for CD-R and CD-RW discs onto which the digital signals of CDs have been copied.
The digital quality of CDs and other digital media can be recorded to CD-R and CD-RW using the CDR function of this unit. However, it is not possible to make a second generation digital copy from a first generation copy. This restriction, known asSCMS (Serial Copy Management System), is intended to prevent unlimited digital copying in the interests of artists and other copyright holders.
This unit is designed to comply with SCMS restrictions.



The copyright laws allow recordings to be made for the personal enjoyment of the individual

user but they do not allow such recordings to be used for any other purpose without permission from the rightful owner of the copyrights.

Notes

- **If digital recording of a first generation digital copy is attempted, "SCMS PROTECT" is shown in the information display, and the recording operation is canceled.**
- **In the case of synchronized recording operations, Listening Edit recording and Program Edit recording, when the first-generation copy is a finalized CD-R or CD-RW disc loaded in the 3-CD changer, the recording type is automatically changed fromdigital to analog, and the recording type indicators light accordingly. (If high-speed dubbing is turned on, it will be turned off when the recording type is changed.)**

4.2. Compatible Disc Formats

The following disc formats can be used for recording in the CDR.
In addition to the marks shown on the right, the phrases shown below or their equivalent should also be present somewhere on the packaging or accompanying documentation:

FOR CONSUMER
FOR CONSUMER USE
FOR MUSIC USE ONLY

Discs that cannot be used for recording are as follows:

- **Discs bearing marks other than those shown above**
- **Discs intended for professional use and/or marked "FOR PROFESSIONAL USE ONLY"**
- **Discs intended for recording computer data**

In addition to the two disc formats shown above, the following disc format can also be played in either the 3-CD changer or CDR.

Notes

- **The unit can playback audio data recorded on CD-G, CD-EXTRA and CD-Text discs as well, however the text information of CD-Text discs cannot be displayed.**
- **If a CD-R or CD-RW has been recorded using a personal computer, playback is only possible if the disc is recorded in the CD-Digital Audio format.**
- **You can play CD-R and CD-RW discs recorded in the music CD format.**
  Some of them, however, may not be played depending on the disc characteristics or recording condition.
- **Do not use a CD-R or CD-RW disc that has been recorded in any format other than the music CD format or a CD-RW disc that has been used in any format other than the music CD format with this unit. Using such a disc with this unit may cause loudsound to damage the speakers or cause hearing disorder.**

5. Location of Controls

6. Preventing static electricity

Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs.

6.1. Grounding to prevent damage by static electricity

Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as CD players.
Be careful to use proper grounding in the area where repairs are being performed.

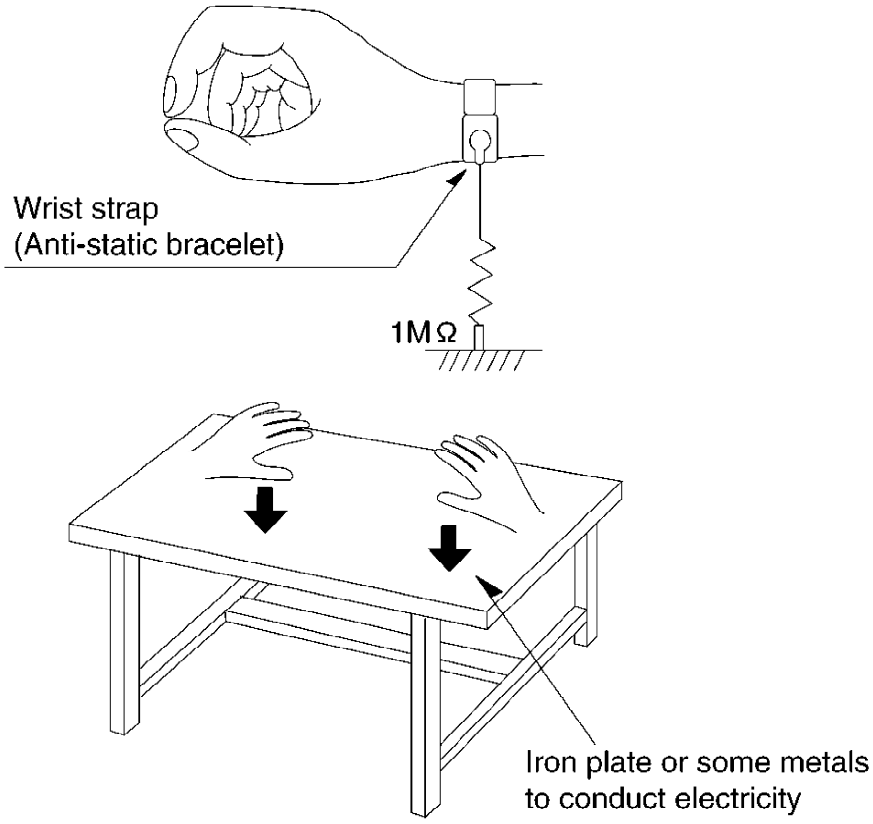
6.1.1. Ground the workbench

1. **Ground the workbench by laying conductive material (such as a conductive sheet) or an iron plate over it before placing the traverse unit (optical pickup) on it. (Refer to Fig. 6-1.)**

6.1.2. Ground yourself

1. **Use an anti-static wrist strap to release any static electricity built up in your body. (Refer to Fig. 6-1.)**

Fig. 6-1



6.1.3. Handling the optical pickup

1. **In order to maintain quality during transport and before installation, both sides of the laser diode on the replacement optical pickup are shorted. After replacement, return the shorted parts to their original condition.**
   (Refer to the text.)
2. **Do not use a tester to check the condition of the laser diode in the optical pickup. The tester's internal power source can easily destroy the laser diode.**

6.2. Handling the traverse unit (optical pickup)

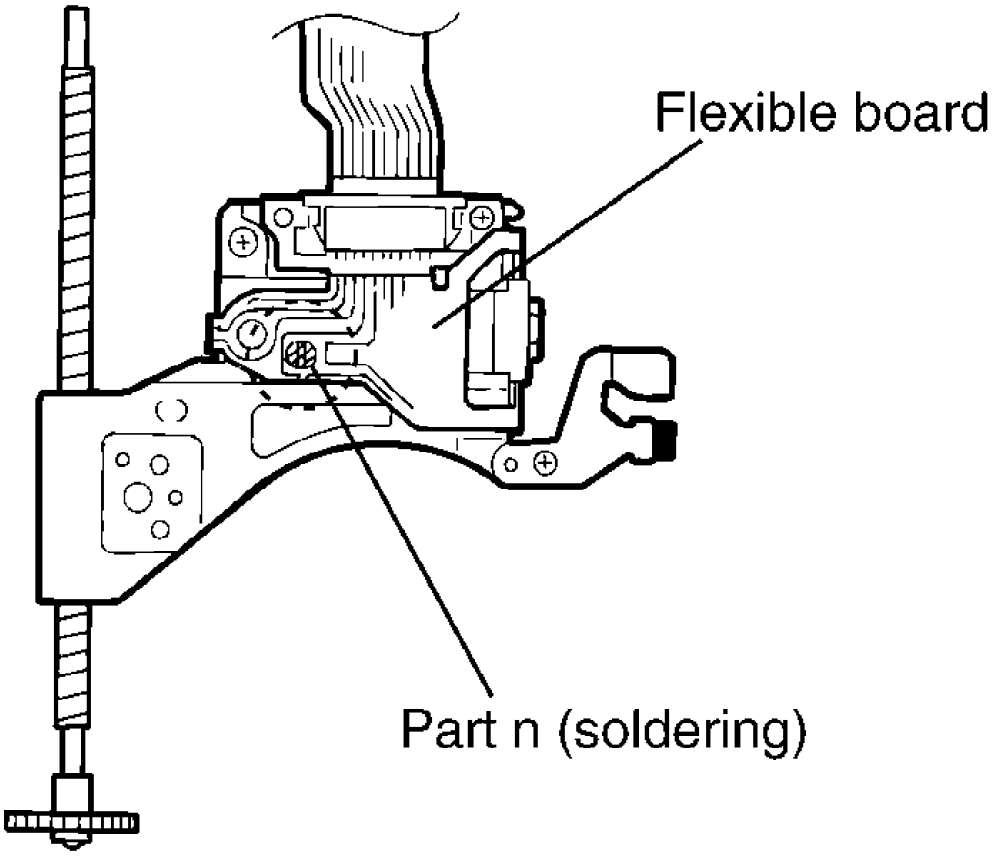
1. **Do not subject the traverse unit (optical pickup) to strong shocks, as it is a sensitive, complex unit.**
2. **Cut off the shorted part of the flexible cable using nippers, etc. after replacing the optical pickup. For specific details, refer to the replacement procedure in the text. Remove the anti-static pin when replacing the traverse unit. Be carefulnot to take too long a time when attaching it to the connector.**

3. **Handle the flexible cable carefully as it may break when subjected to strong force.**
4. **It is not possible to adjust the semi-fixed resistor that adjusts the laser power. Do not turn it**

7. Precautions for Service

[Handling of Traverse Unit and Laser Pickup]

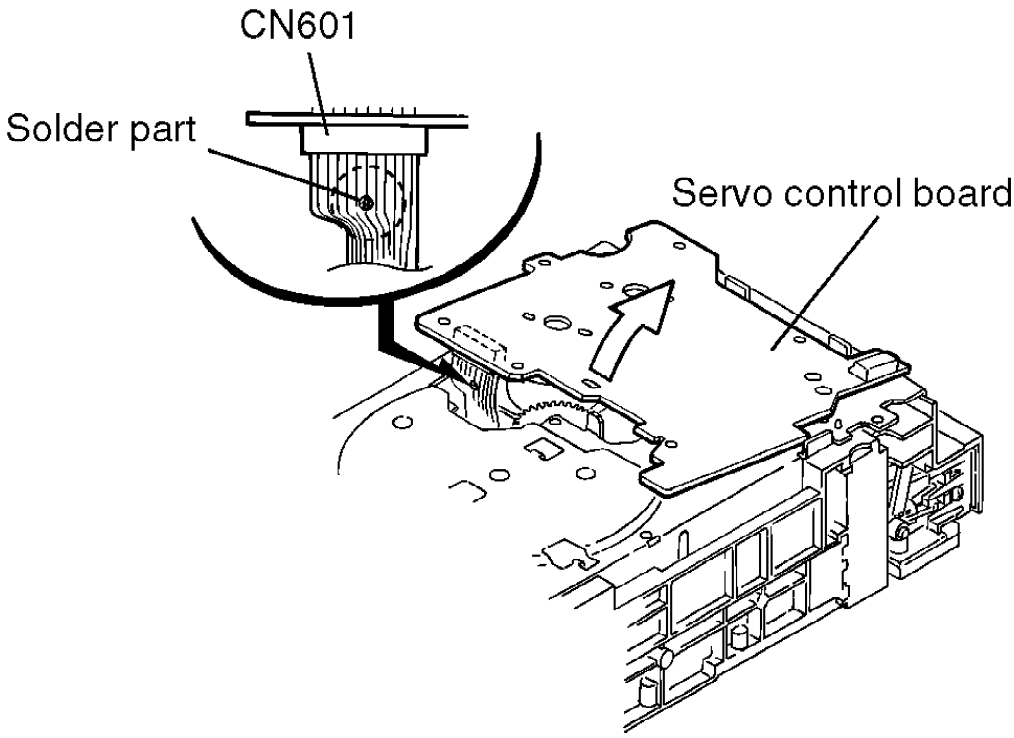
1. **Do not touch any peripheral element of the pickup or the actuator.**
2. **The traverse unit and the pickup are precision devices and therefore must not be subjected to strong shock.**
3. **Do not use a tester to examine the laser diode. (The diode can easily be destroyed by the internal power supply of the tester.)**
4. **To replace the traverse unit, pull out the metal short pin for protection from charging.**
5. **When replacing the pickup, after mounting a new pickup, remove the solder on the short land which is provided at the center of the flexible wire to open the circuit.**
6. **Half-fixed resistors for laser power adjustment are adjusted in pairs at shipment to match the characteristics of the optical block. Do not change the setting of these half-fixed resistors for laser power adjustment.**
7. **New pickup is shorted by soldering the land which is provided at the part n of the flexible board on the underside of it.**
   After completing the rapair, remove the solder to open the circuit.



[Destruction of Traverse Unit and Laser Pickup by Static Electricity]
Laser diodes are easily destroyed by static electricity charged on clothing or the human body. Before repairing peripheral elements of the traverse unit or pickup, be sure to take the following electrostatic protection:

1. **Wear an antistatic wrist wrap.**
2. **With a conductive sheet or a steel plate on the workbench on which the traverse unit or the pickup is to be repaired, ground the sheet or the plate.**
3. **After removing the flexible wire from the connector (CN601), short-circuit the flexible wire by the metal clip.**
4. **Short-circuit the laser diode by soldering the land which is provided at the center of the flexible wire for the pickup. After completing the repair, remove the solder to open the circuit.**

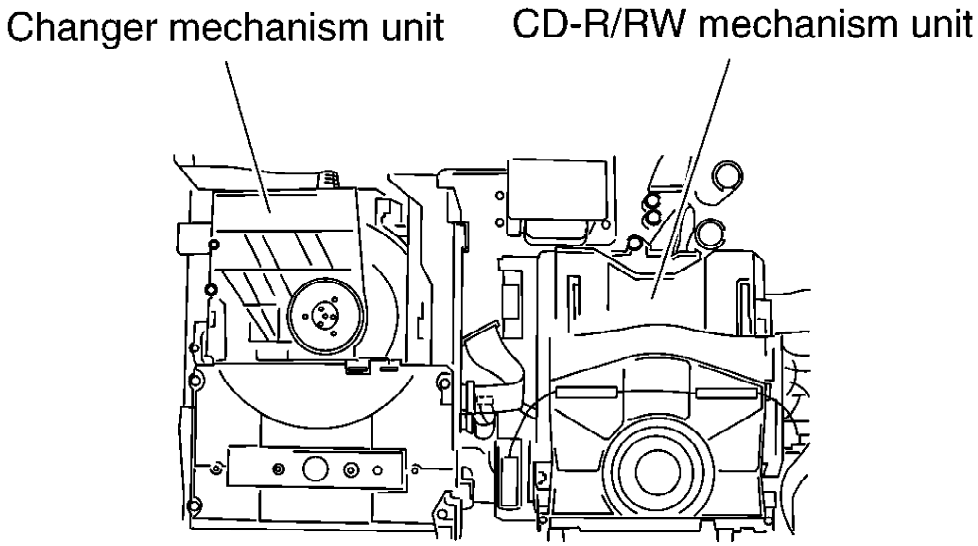
Please refer to "Fig.4" of "Disassembly method <Changer mechanism unit>" for details.



8. How to check the abnormalities of the CD-R/RW mechanism unit and repair them.

In this model, the entire CD-R/RW mechanism unit must be replaced.
When the source of the problem appears to be in the CD-R/RW mechanism unit, check it using the following procedure and replace it.

1. **Check the operation of the CD-R/RW mechanism unit by following the “12.2. Running Operation” in this service manual.**
2. **If abnormalities are confirmed, replace the defective CD-R/RW mechanism unit.**
3. **Confirm the normal operation of the newly installed CD-R/RW by following the procedure of the checking operation 1.**
4. **If the model does not operate properly even after the CD-R/RW mechanism unit has been replaced, the cause of the malfunction may reside in other parts.**



9. Operation Checks and Component Replacement Procedures

Disassembly method

<Main body>

■ Removing the top cover (see Fig.1)

1.Remove the four screws **A** attaching the top cover on both sides of the body.

2.Remove the two screws **B** attaching the top cover on the back of the body.

3.Remove the top cover from the body by lifting the rear part of the top cover.

ATTENTION: Do not break the front panel tab fitted to the top cover.

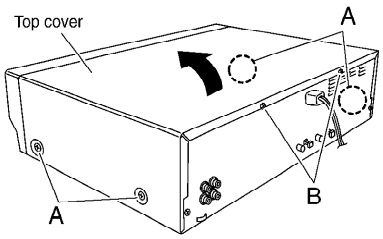


Fig.1

■ Removing the changer mechanism unit (see Fig.2~4)

*Prior to performing the following procedure, remove the top cover.

1.Disconnect the card wire from connector CN615 and CN616 on the main board respectively.

2.Remove the four screws **C** attaching the changer mechanism unit.

3.Remove the changer mechanism unit from the body by lifting the rear part of the changer mechanism unit.

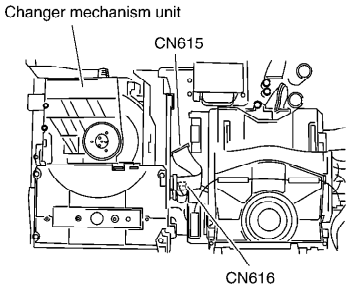


Fig.2

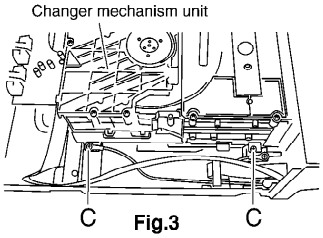


Fig.3

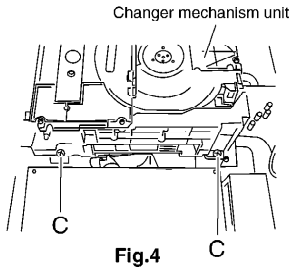


Fig.4

■ Removing the CD recording mechanism unit (see Fig.5~7)

*Prior to performing the following procedure, remove the top cover.

*There is no need to remove the changer mechanism unit.

1.Remove the three screws **E** attaching the CD recording mechanism unit.

2.Remove the two screws **F** attaching the lug terminals.

3.Disconnect the card wire from connector CN702 and CN703 on the servo control board respectively.

4.Disconnect the connect wire from connector CN701 on the servo control board.

5.Remove the five screws **G** attaching the mechanism chassis

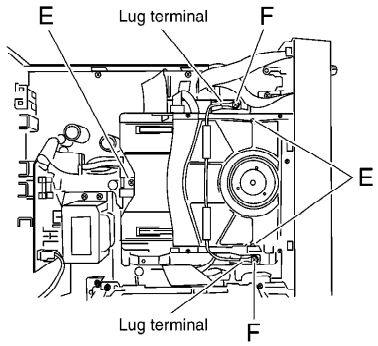


Fig.5

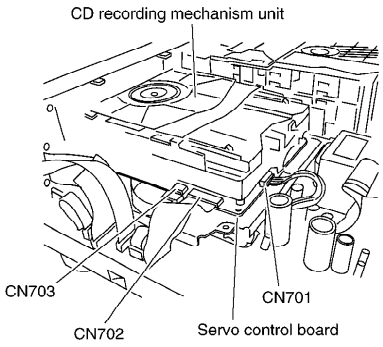


Fig.6

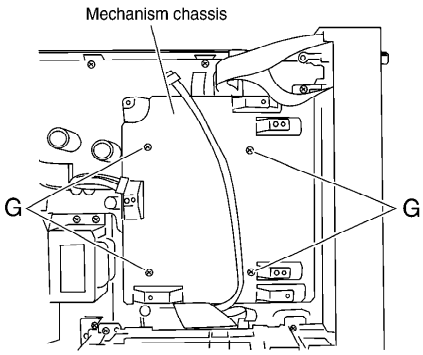


Fig.7

■ Removing the front panel unit (see Fig.8~10)

*Prior to performing the following procedure, remove the top cover.

*There is no need to remove the changer mechanism assembly and CD recording mechanism unit.

1.Remove the three screws **H** attaching the front panel assembly on the bottom of the body.

2.Remove the one screw **I** attaching the headphone jack bracket.

3.Remove the one screw **J** attaching the change mechanism unit.

4.Disconnect the card wire from connector CN711, CN841 and CN501 on the main board respectively.

5.Hook **a** and **b** are removed respectively, and the front panel assembly is removed.

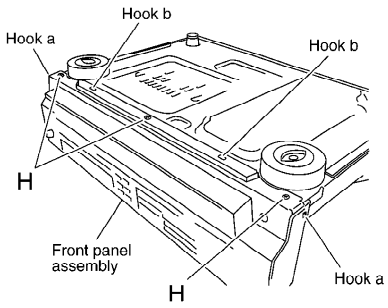


Fig.8

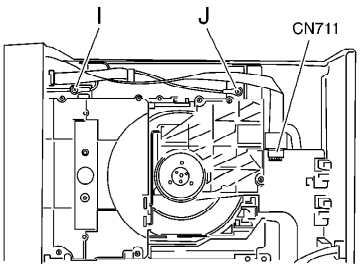


Fig.9

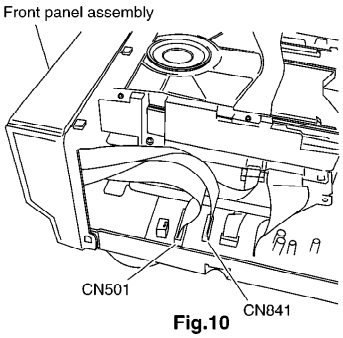


Fig.10

■ Removing the rear panel (see Fig.11,12)

*Prior to performing the following procedure, remove the top cover.

1.Remove the nine screws **K** attaching the rear panel.

2.Unsolder the power cord from connector CN10 and CN20 on the power supply board.

3.Cut the cord clamper.

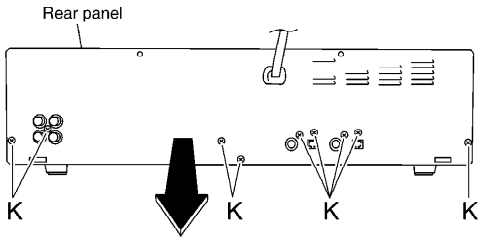


Fig.11

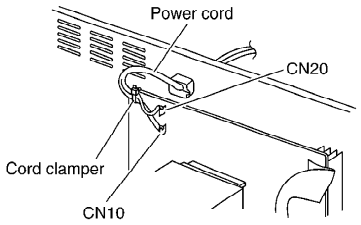


Fig.12

■ Removing the main board and power supply board (see Fig.13)

*Prior to performing the following procedure, remove the top cover, front panel assembly, changer mechanism assembly, CD recording mechanism unit and rear panel.

1.Remove the four screws **L** attaching the power transformer.

2.Disconnect the flat wire from connector CN901 and CN902 on the main board.

3.Remove the six screws **M**attaching the main board.

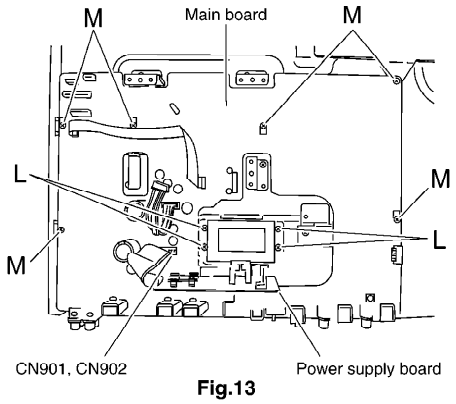


Fig.13

Checking procedure for each board

■ Check the operation board (see Fig.1)

*Prior to performing, remove the top cover and front panel assembly.

1. Connect the card wire to connector CN711, CN841 and CN501 on the main board respectively.

2. Check the operation board as shown Fig.1.

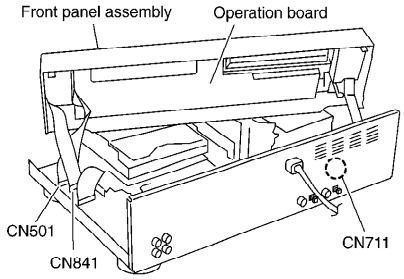


Fig.1

■ Check the servo control board (see Fig.2)

*Prior to performing the following, remove the top cover and changer mechanism unit.

1. Connect the extension 2 FFCs to the connector.

2. Check the servo control board as shown Fig.2.

ATTENTION: Extension FFC for diagnosis of changer mechanism unit
- a. There is an extension FFC to diagnose changer mechanism unit.
- b. The undermentioned connector is connected, and used mutually.

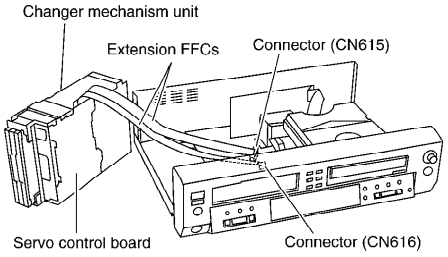
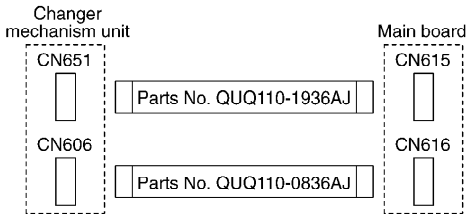


Fig.2



■ Check the operation board (see Fig.1)

*Prior to performing the following procedure, remove the top cover, front panel assembly, chenger mechanism assembly, CD recording mechanism unit, main board and power supply board.

1. Release the claws on both sides in the direction of arrow and pull out the cord clamper. (Shown in Fig.3.)

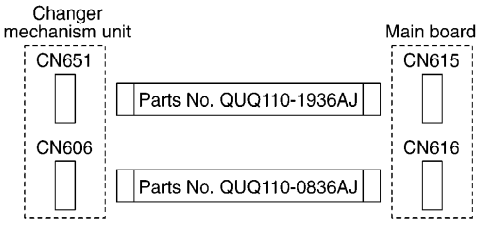
2. Connect the power supply board to main board.

3. Connect the CD recording mechanism unit to main board. (Shown in Fig.4.)

4. Connect the extension 2 FFCs to the connector. (Shown in Fig.5.)

5. Check the main board as shown Fig.5.

ATTENTION: Extension FFC for diagnosis of changer mechanism unit
- a. There is an extension FFC to diagnose changer mechanism unit.
- b. The undermentioned connector is connected, and used mutually.



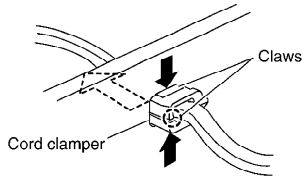


Fig.3

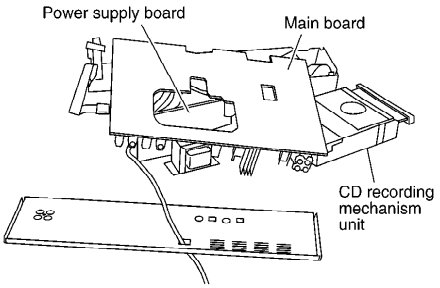


Fig.4

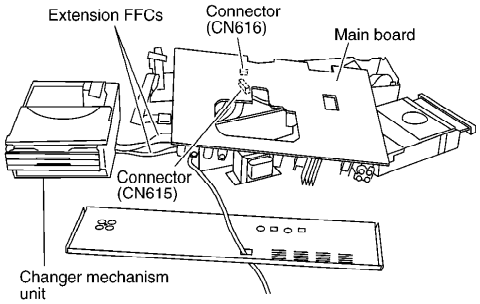


Fig.5

<Changer mechanism unit >

■ Removing the servo control board (See Fig.1 to 4)

ATTENTION: Make sure the sub chassis unit is locating at the lowest position. If not,perform the following procedure from 1 to 3.

1. Insert a screwdriver into the sub chassis slot on the back of the body and push the slider (R) toward the front.
2. From the top of the body, slide the hook and the slider (R) forward until they stop.
3. From the right side of the body, slide the slide cam (L) backward until it stops. The sub chassis unit will move to the lowest position.
4. From the bottom of the body, unsolder each soldered part **a** and **b** of the motors on the servo control board.
5. Remove the five screws **A** attaching the servo control board.
6. Disconnect connector CN610 on the servo control board from the tray select switch board to suspend the servo control board tentatively. Solder the part **c** of the flexible wire connected to connector CN601 on the underside of the servo control board.
7. Disconnect the flexible wire from connector CN601 and remove the servo control board from the body.

ATTENTION: In case of disconnecting the flexible wire without soldering, the CD pick up may be damaged (Refer to Fig.4).

ATTENTION: When reassembling, make sure the cam switch boss of the servo control board is fitted to the slot **p** of the control cam on the bottom of the body (Refer to Fig.3-1 and Fig.3-2).

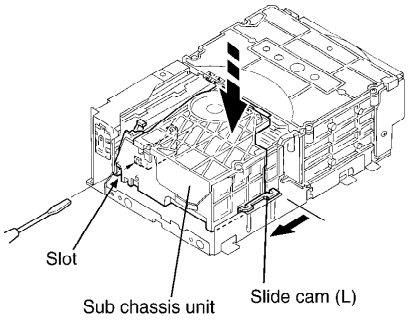


Fig.1

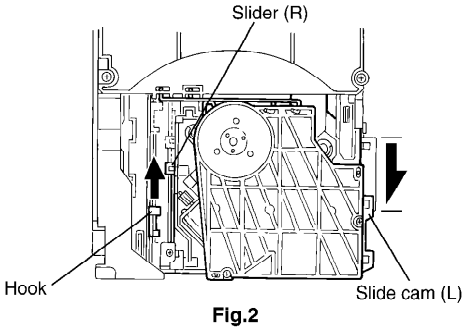


Fig.2

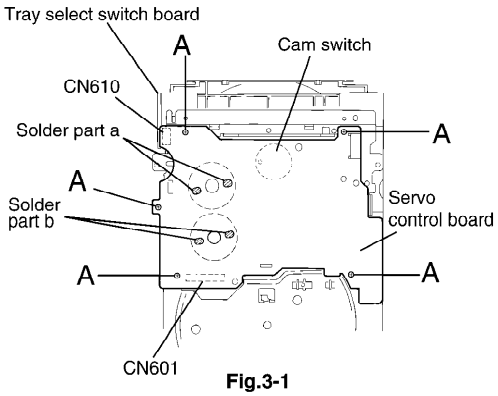


Fig.3-1

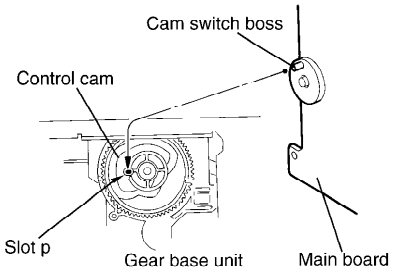


Fig.3-2

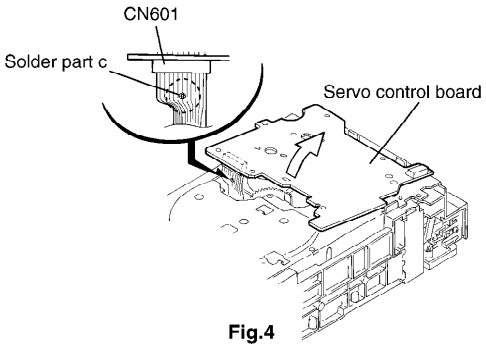


Fig.4

■Removing the tray unit (See Fig.5 to 8)

* The tray unit can be removed despite the position of the sub chassis unit, but the lowest position is recommended to expedite the work.

1. Remove the four screws **B** attaching the top cover on the top of the body.
2. Remove the top cover with the two rods attached to the top cover and the clamper base unit.
3. Pull the lock lever of the return spring on the right side of the body to eject the tray unit.
4. From the top of the body, release the tray from the joint hook marked **d** (Push the tray toward the front).
5. Release the stoppers on both sides in the direction of the arrow and pull out the tray unit from the body.

ATTENTION: Pull out the tray unit from the top tray 3 in sequence.

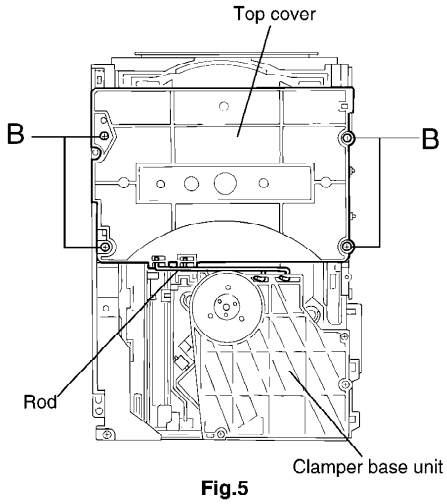


Fig.5

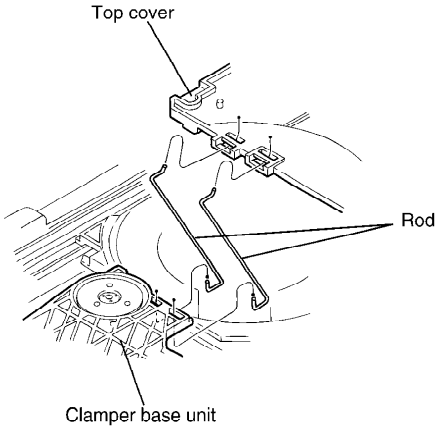


Fig.6

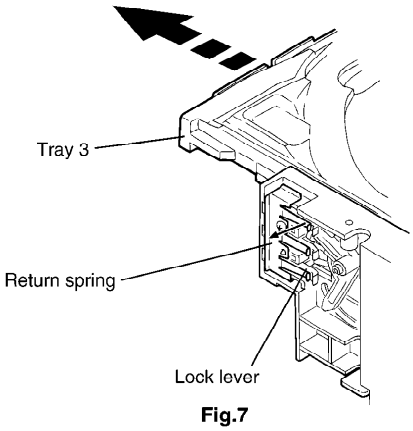


Fig.7

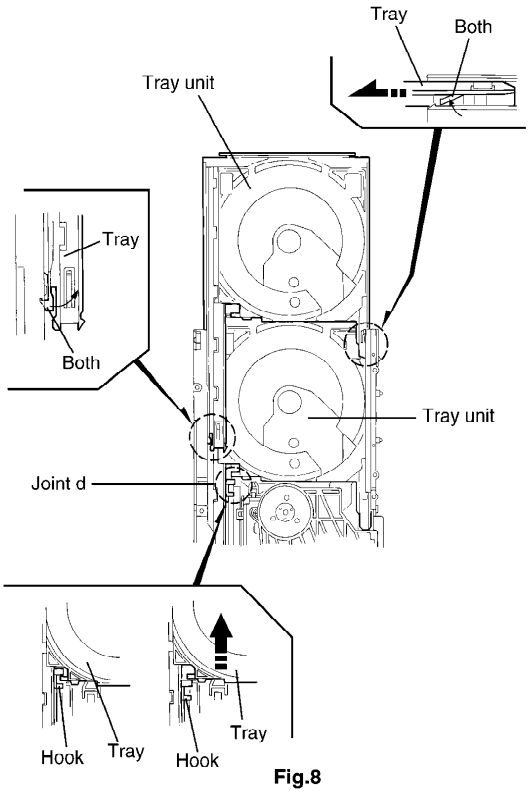


Fig.8

■Removing the side unit (L) and (R) (See Fig.9-1 to 9-5)

- Prior to performing the following procedures, remove the servo control board, the top cover and the tray unit.

1. Remove the two screws **C** attaching the side unit (L).

2. Slide and remove the side unit (L) toward the front while releasing the two joints **e** and the joint **f** with the chassis unit.

3. Slide the slide cam (L) toward the front until it stops to place the sub chassis unit at the top position.

   ATTENTION: The side unit (R) can be removed when the sub chassis unit is located at the top position.

4. Turn the hook gear counterclockwise to move the slide hook and the slider (R) backward until they stop.

5. Remove the three screws **D** attaching the side unit (R). Raise the side unit (R) upward and release the joint **g** with the chassis unit and the boss from the select arm marked **h**. Then remove the side unit (R) from the body.

   ATTENTION: When reassembling, make sure the boss is fitted to the select arm marked **h**.

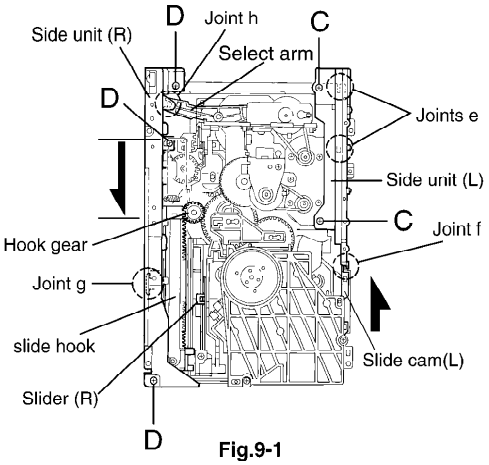


Fig.9-1

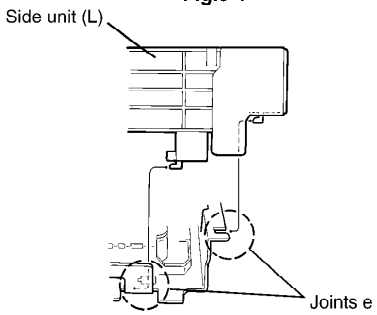


Fig.9-2

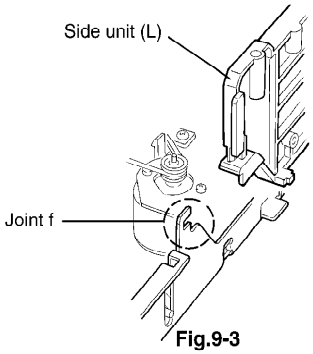


Fig.9-3

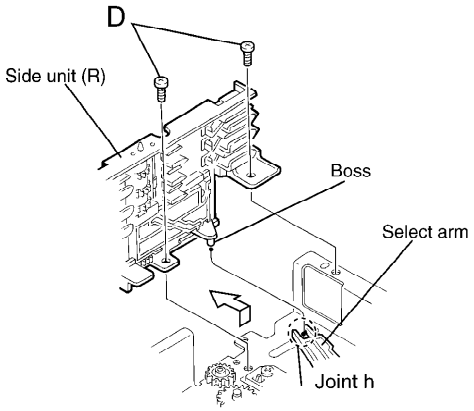


Fig.9-4

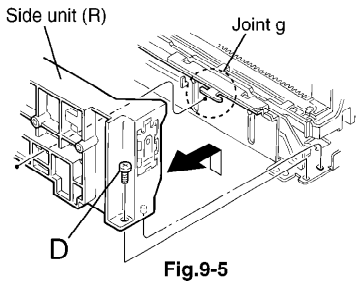


Fig.9-5

■ Removing the sub chassis unit
(See Fig.10 to 12)

- Prior to performing the following procedures, remove the servo control board, the top cover, the tray unit, the side unit (L) and the side unit (R).

1. Turn the hook gear counterclockwise to move the slide hook and the slider (R) backward until they stop.

2. Slide the slide cam (L) and the slide cam (R) in the direction of the arrow until they stop.

   (The notches of each slide cam are fitted to the pins on both sides of the sub chassis unit.)

3. Detach the sub chassis unit upward.

   ATTENTION: When reassembling, turn the hook gear of the chassis unit counterclockwise until it stops and slide the slide hook and the slider (R) of the sub chassis unit backward until they stop.

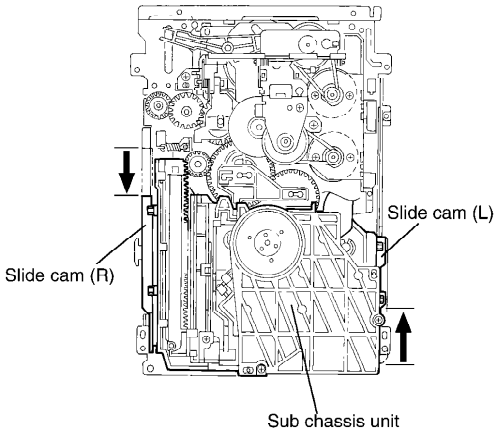


Fig.10

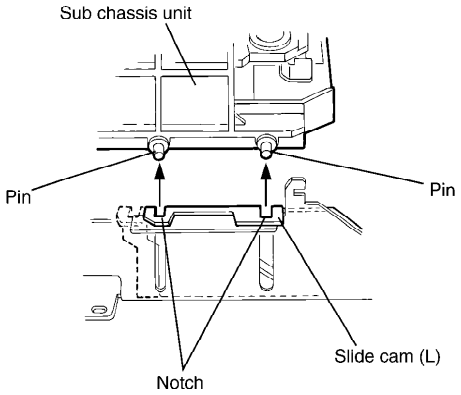


Fig.11

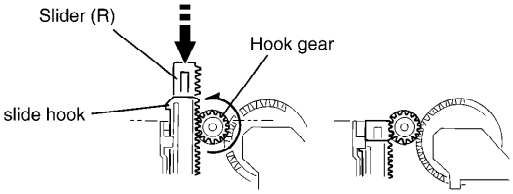


Fig.12

■Removing the flap base unit and the gear base unit (See Fig.13 and 14)

- Prior to performing the following procedures, remove the servo control board, the top cover, the tray unit, the side unit (L) and the side unit (R).

1. Remove the screw **E** attaching the flap base unit. Release the joint tabs **i** and **j**, then remove the flap base unit from the body.

2. Remove the belts from the two pulleys on the gear base unit.

3. Remove the three screws **F** and remove the gear base unit from the body.

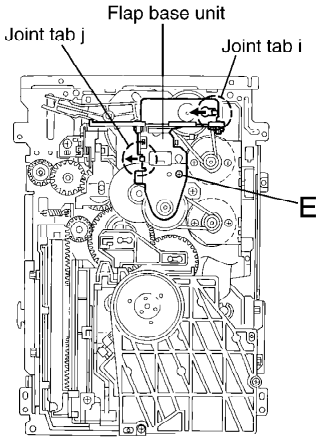


Fig.13

■Removing the motors (See Fig.15)

- Prior to performing the following procedure, remove the main board.

1. Remove the belts from the two pulleys.

2. Remove the four screws **G** and detach each motor from the body.

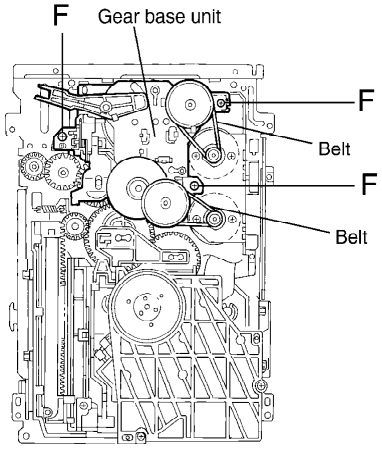


Fig.14

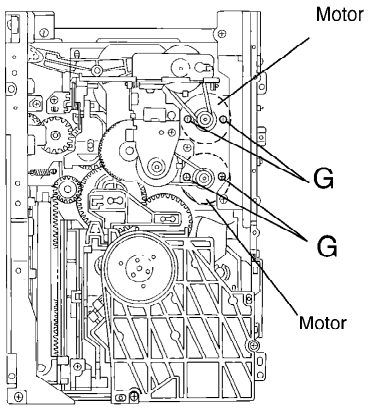


Fig.15

■Removing the pickup (See Fig.16 to 20)

1. From the top of the body, remove the three screws **H** attaching the clamper base unit.

2. Remove the clamper base unit with the two rods attached to the clamper base unit and the top cover.

3. Turn the screw shaft gear marked **k** in the direction of the arrow to move the pickup unit.

4. Remove the screw **I** attaching the shaft holder.

5. Move the screw shaft in the direction of the arrow and release it from the joint **l**. Then release it from the joint **m** with the pickup holder. Detach the pickup with the screw shaft.

6. Solder the part **n** of the flexible board on the underside of the pickup. After soldering, disconnect the flexible wire connected to the pickup (In case of disconnecting the flexible wire without soldering, it may cause damage to the CD pickup).

7. Remove the two screws **J** attaching the rack arm to the pickup unit.

8. Pull out the screw shaft from the pickup.

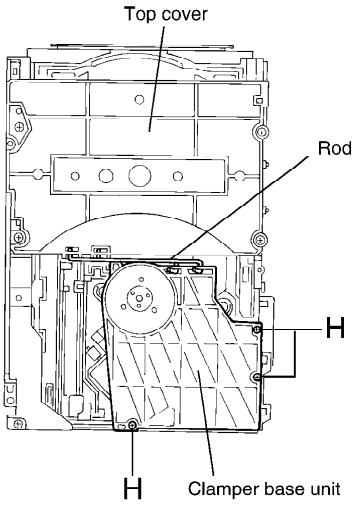


Fig.16

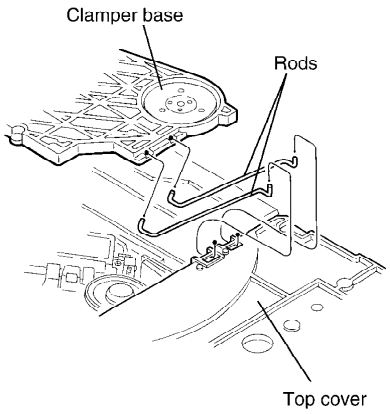


Fig.17

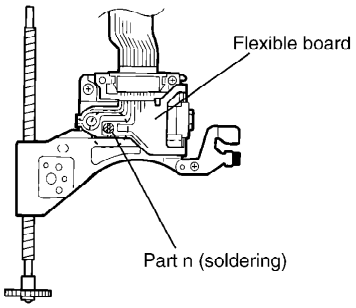


Fig.19

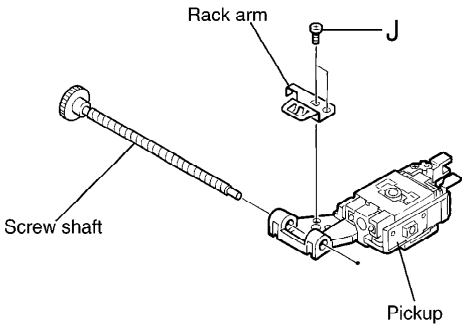


Fig.20

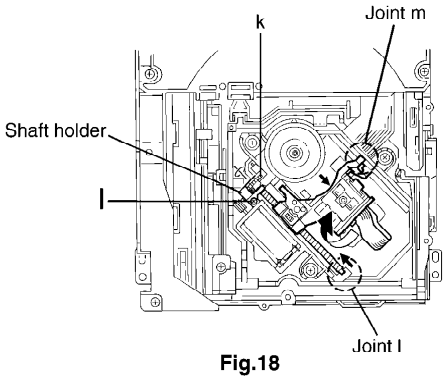


Fig.18

■Removing the traverse mechanism assembly (See Fig.21)

- Prior to performing the following procedure, remove the servo control board and the clamper base unit.

1. Remove the three screws **K** attaching the traverse mechanism assembly.
2. Detach the rear part of the traverse mechanism assembly upward to release the joint **o** with the sub chassis unit. Then remove the assembly from the body.

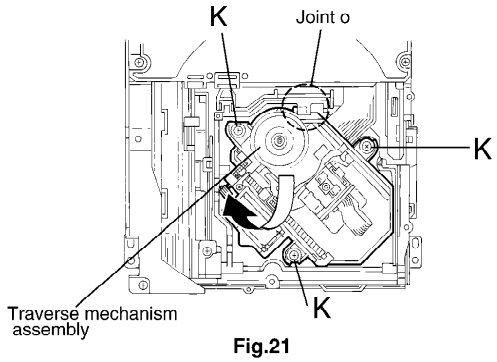


Fig.21

■Removing the feed motor (See Fig.22)

- Prior to performing the following procedure, remove the traverse mechanism assembly.

1. Remove the screw **L** attaching the feed motor.

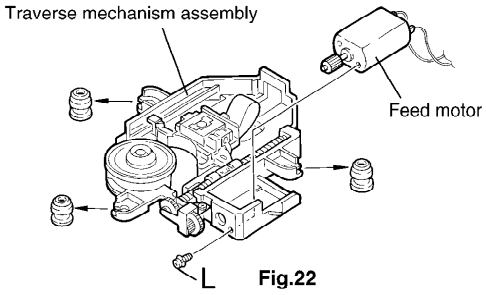


Fig.22

■Removing the tray select switch board (See Fig.5,6 and 23)

1. Remove the four screws **B** attaching the top cover on the top of the body.
2. Remove the top cover with the two rods attached to the top cover and the clamper base unit.
3. Remove the screw **M** on the right side of the body.

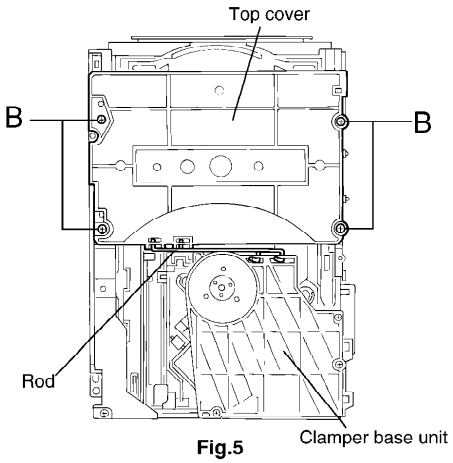


Fig.5

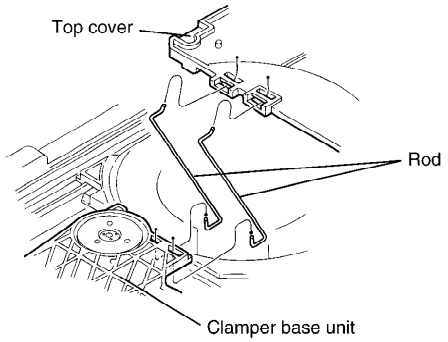


Fig.6

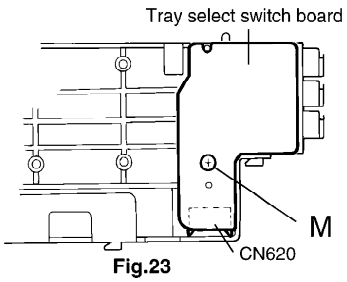


Fig.23

10. All Lighting FL Display and Reducing Time Operation of Clock

The clock display comes to advance during one minute a second in actual time when changing to this method.

Because other operation can do the normal operation, uses for the confirmation of the operation of the timer function etc..

10.1. Preparation

Please setting the present time when the time display has blinked “0:00”.

10.2. Setting method

1. **“POWER ⏻/I” key is pushed while pushing “REC/REC MUTE” key by the stand-by state.**
   (Enter the “All Lighting FL Display” mode.)
2. **“POWER ⏻/I” key is pushed. (Enter the “Reducing Time Operation of Clock” mode.)**

10.3. Release method

“POWER ⏻/I” key is pushed while pushing “REC/REC MUTE” key.

11. All release of set content

All content of the item in the following set is returned to initial state. (State of factory shipment) (Refer to Fig. 11-1.)

11.1. Setting mode

“POWER ⏻/I” key is pushed while pushing “REC SELECTOR” key by the stand-by state.

Fig. 11-1

[Set items]

- Deletion of time setting
- The setting of the timer is deleted.
- The program of the program play is deleted.
- The content of the registration of the listening editing and the program editing is deleted.
- The repeat setting is turned off.
- Release of disc lock
- The unit of busy is adjusted to the changer mechanism side.
- The play mode of changer mechanism is made a normal mode.
- The pitch control setting is turned off.
- The selection of the recording source is made DIGITAL of CD.
- DUB-SPEED setting is made HIGH.
- AUTO TRACK setting is turned ON.
- TRACK SPACE setting is turned ON.
- CONVERTER setting is turned ON.
- D-IN SYNCHRO setting is START
- FINALISE setting is ON

12. Service Mode

“The running operation” and “the version of the firmware” can be confirmed by the under-mentioned method.

12.1. Setting method of service menu

1. **“POWER ⏻/I” key is pushed while pushing “FINALIZE” key by the stand-key state.**

2. When the blinking display of the disc distinction ends, “MENU” key is pushed.
   *The menu display changes if “MULTI JOG” knob of the main body is turned. (Refer to Fig. 12-1.)

Fig. 12-1

	MENU	
①	READ RID CODE	Not use. (Display of RID code.)
②	ENG SETUP	Not use.
③	3CD FC ADJ.	Not use.
④	3CD TR ADJ.	Not use.
⑤	READ CDR C1	Not use.
⑥	CDR SELFDIAG	Not use.
⑦	SYSTEM AGING	Use to "Running operation".
⑧	READ VERSION	Use to "Display of Version Number".
⑨	RW DUB-HIGH	Not use.

Note:
The execution of the each item is completed or either “CANCEL” key, “CD-RW STOP” key or “MENU” key is pushed when going out of the menu mode.

12.2. Running operation

When this mode is executed, the operation of the recording and the playback is repeated.

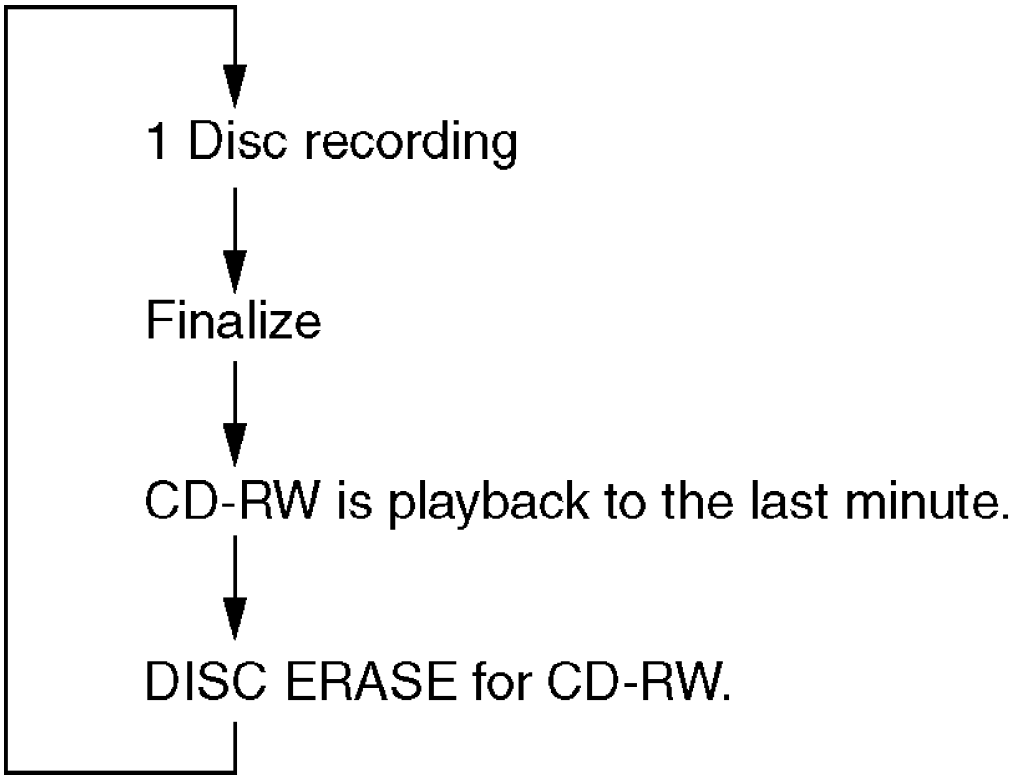
12.2.1. Preparations

1. Recorded disc or CD-DA (*Time for the running operation and the number of pickup operations can be adjusted by changing the data written in this disc.)
2. CD-RW of the blank disc
3. Put the Recorded disc (or CD-DA) in tray 1 of changer mechanism and put CD-RW of the blank disc in recording mechanism.

12.2.2. Setting method

1. “Service menu” is made to be displayed on the FL display referring to the abovementioned.
2. “SYSTEM AGING” is made to turn “MULTI JOG” knob, and to be displayed on the FL display.
3. The under-mentioned operation starts when “SET” key is pushed. (Refer to Fig. 12-2.)

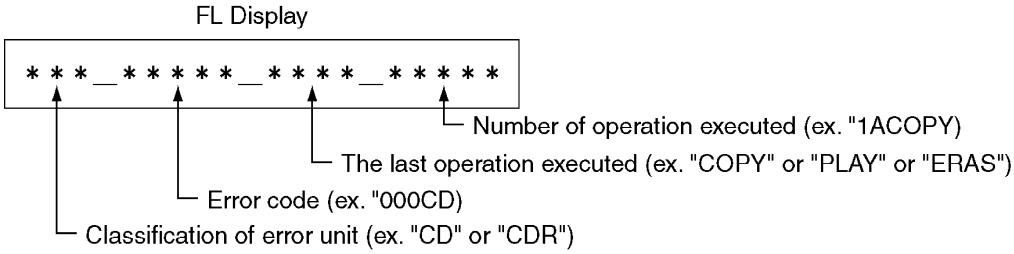
Fig. 12-2



Notes:

1. **If the running operation is started without the disc installed, the message “000CD 1ACOPY” will be displayed.**
2. **The running operation is immediately stopped by pressing any of effective input by key, the remote controller, DCS operation. When running operation is interrupted by the “STOP” key or error, following message will be displayedcontinuously until the power source of the model is shut off. (Refer to Fig.12-3.)**

Fig. 12-3


FL Display
* * * _ * * * * * _ * * * * _ * * * * *
Number of operation executed (ex. "1ACOPY)
The last operation executed (ex. "COPY" or "PLAY" or "ERAS")
Error code (ex. "000CD)
Classification of error unit (ex. "CD" or "CDR")

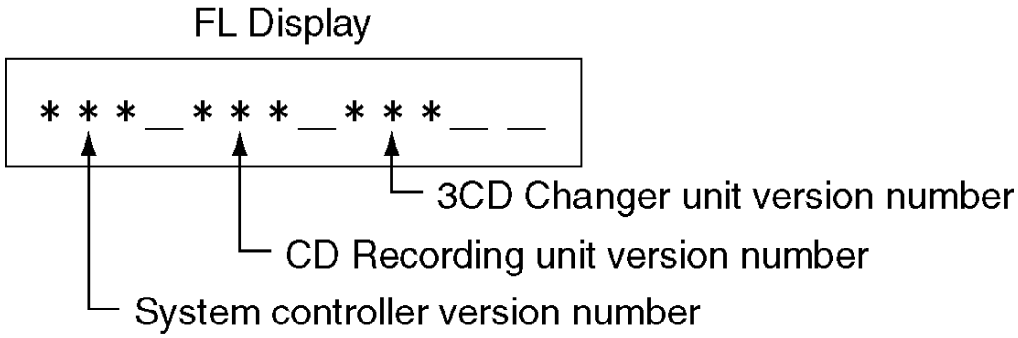
12.3. Display of version number

When this item is executed, version number “system controller”, “CD recording unit” and “3CD changer unit” respectively is displayed in FL display.

12.3.1. Setting method

1. **“Service menu” is made to be displayed on the FL display referring to the abovementioned.**
2. **“READ VERSION” is made to turn “MULTI JOG” knob, and to be displayed on the FL display.**
3. **Version number is displayed in FL display for five seconds when “SET” key is pushed. When five seconds pass, this mode is automatically made clear. (Refer to Fig. 12-4.)**

Fig. 12-4



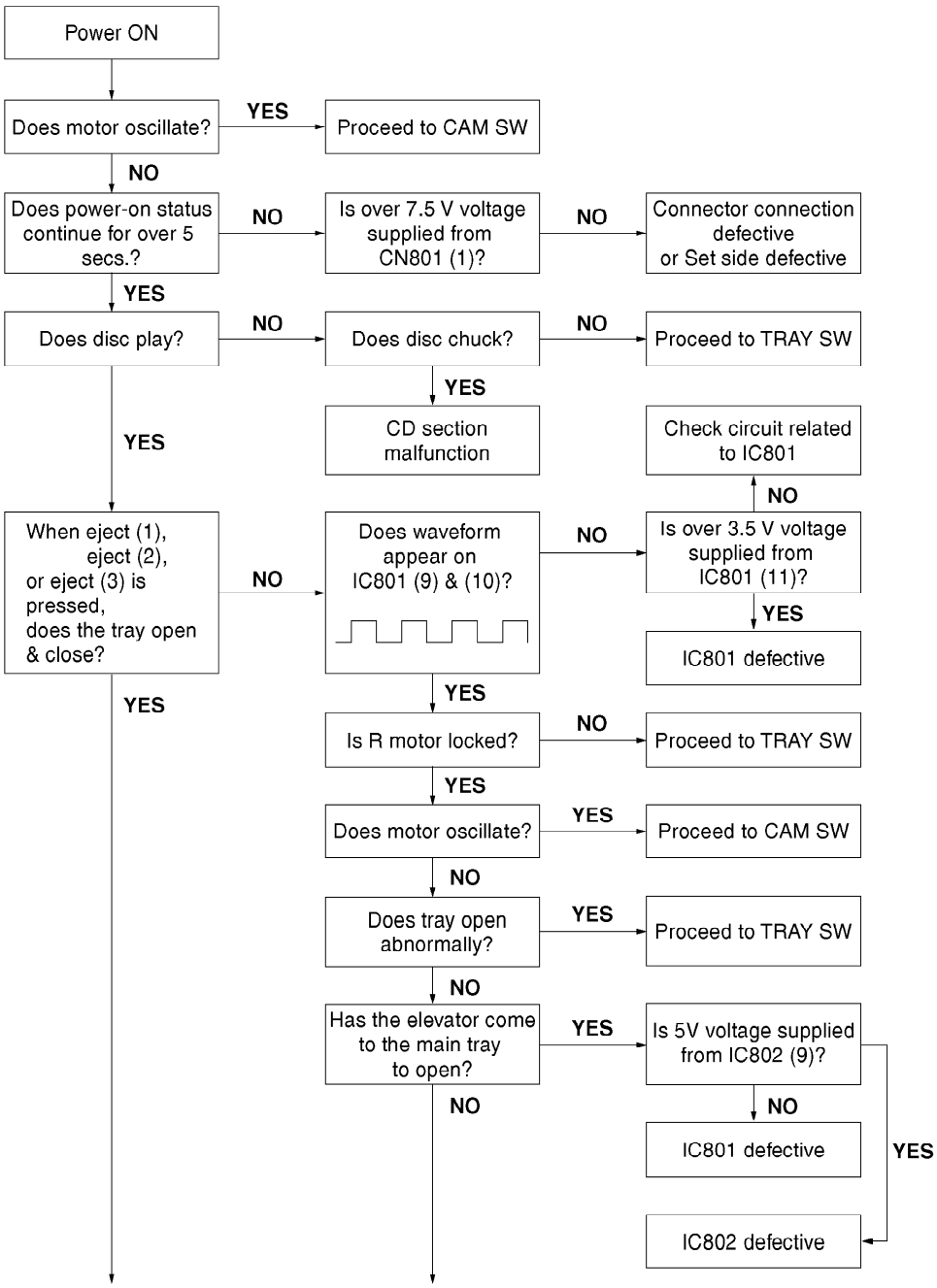
Note:
It is displayed instead of version number when failing in reading version number, “000”.

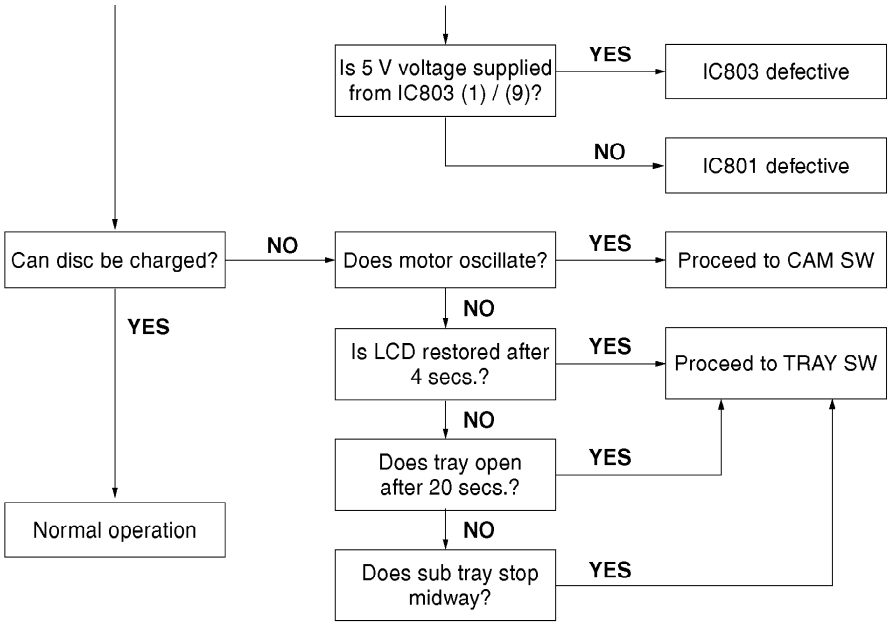
12.4. Release method

If “POWER ⏻/I” key is pushed, and the power supply is turned off once, becomes a normal menu.

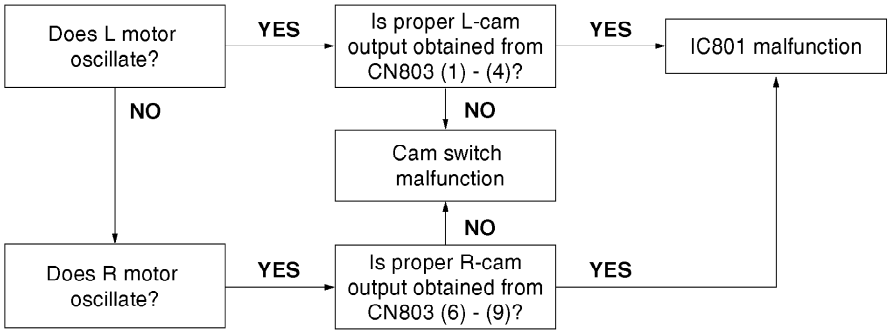
13. Troubleshooting of CD Changer Mechanism Part

■ GENERAL SECTION

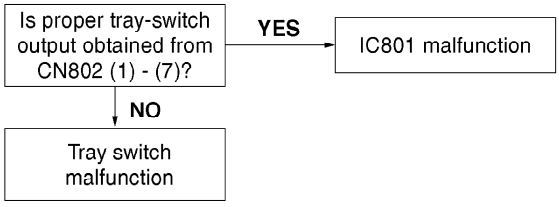




■ CAM SWITCH SECTION



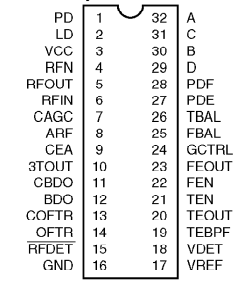
■ TRAY SWITCH SECTION



14. Description of major ICs

■AN22000A-W(IC601):RF & SERVO AMP

1. Pin layout

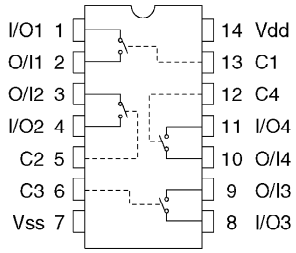

PD 1 32 A
LD 2 31 C
VCC 3 30 B
RFN 4 29 D
RFOUT 5 28 PDF
RFIN 6 27 PDE
CAGC 7 26 TBAL
ARF 8 25 FBAL
CEA 9 24 GCTRL
3TOUT 10 23 FEOUT
CBDO 11 22 FEN
BDO 12 21 TEN
COFTR 13 20 TFOUT
OFTR 14 19 TEBPF
RFDET 15 18 VDET
GND 16 17 VREF

2. Pin function

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	PD	APC Amp. Input terminal	16	GND	Connect to ground
2	LD	APC Amp.Output terminal	17	VREF	VREF output terminal
3	VCC	Power supply terminal	18	VDET	VDET output terminal
4	RFN	RF addition Amp.Reversing input terminal	19	TEBPF	VDET input terminal
5	RF OUT	RF addition Amp.Output terminal	20	TEOUT	TE Amp. output terminal
6	RF IN	AGC input terminal	21	TEN	TE Amp. reversing input terminal
7	C.AGC	Terminal of connection of capacity of AGC loop filter.	22	FEN	FE Amp. reversing input terminal
			23	FEOUT	FE Amp. output terminal
8	ARF	AGC output terminal	24	GCTRL	Terminal GCTL & APC
9	CEA	Capacity connection terminal for HPF-Amp.	25	FBAL	FBAL control terminal
10	3TOUT	3TENV output terminal	26	TBAL	TBAL control terminal
11	CBDO	Capacity connection terminal for RF shade side envelope detection	27	PDE	Tracking signal input terminal 1
			28	PDF	Tracking signal input terminal 2
12	BDO	BDO output terminal	29	D	Focus signal input terminal 4
13	COFTR	Capacity connection terminal for RF discernment side envelope detection	30	B	Focus signal input terminal 2
			31	C	Focus signal input terminal 3
14	OFTR	OFTR output terminal	32	A	Focus signal input terminal 1
15	$\overline{\text{RFDET}}$	RFDET output terminal			

■ BU4066BCF-X(IC821,IC831,IC841,IC861):Source selector

1.Pin layout & block diagram

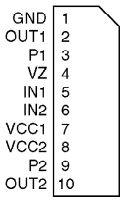


2.Truth table

Control	Switch
H	ON
L	OFF

■ LB1641 (IC851A,IC852) : DC Motor driver

1. Pin layout

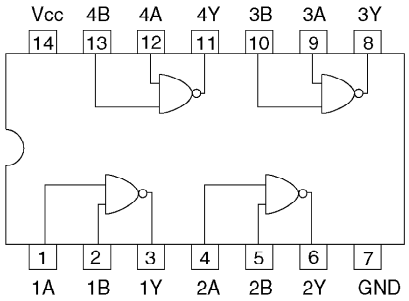


2. Truth table

Input		Output		Mode
IN1	IN2	OUT1	OUT2	
0	0	0	0	Brake
1	0	1	0	CLOCKWISE
0	1	0	1	COUNTER-CLOCKWISE
1	1	0	0	Brake

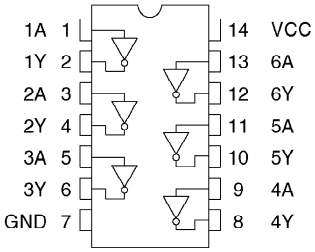
■ TC74HC00AF(IC301,IC311):Digital I/O selector

Pin layout & block diagram



■ TC74HCU04AFW(IC331):Digital input selector

1.Pin layout & block diagram

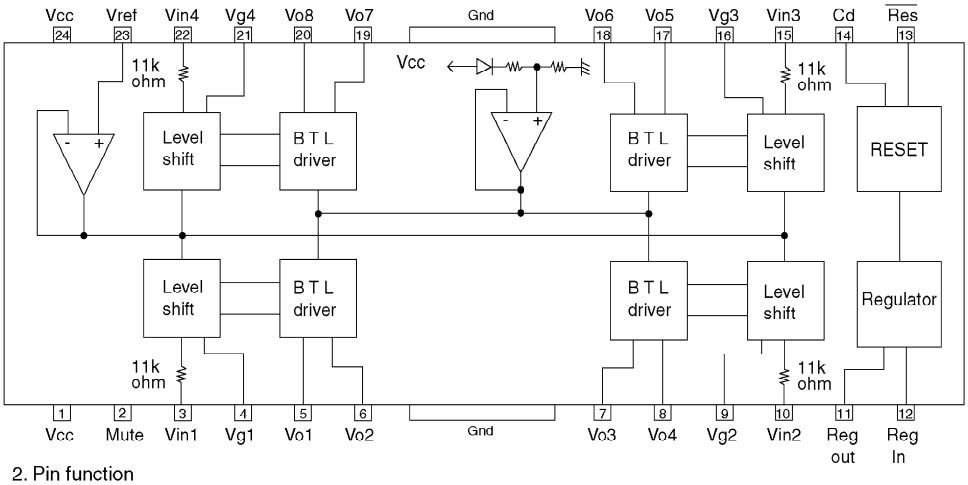


2.Truth table

A	Y
L	H
H	L

■ LA6541-X (IC801) : Focus & Spindle & Feed & Tracking BTL driver

1. Pin layout & Block diagram

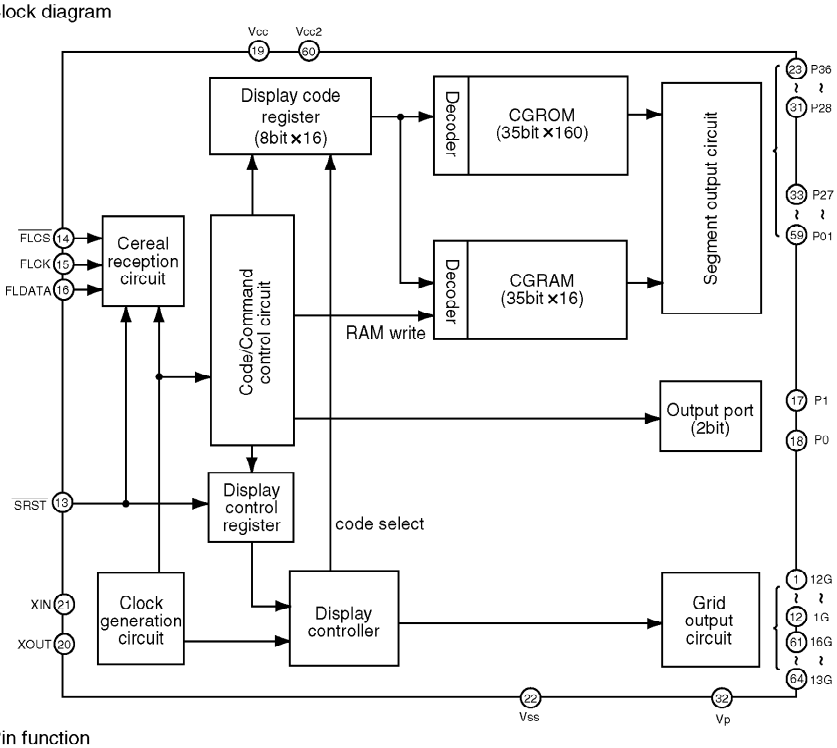


2. Pin function

Pin No.	Symbol	Description
1	Vcc	Power supply (Shorted to pin 24)
2	Mute	All BTL amplifier outputs ON/OFF
3	Vin1	BTL AMP 1 input pin
4	Vg1	BTL AMP 1 input pin (For gain adjustment)
5	Vo1	BTL AMP 1 input pin (Non inverting side)
6	Vo2	BTL AMP 1 input pin (Inverting side)
7	Vo3	BTL AMP 2 input pin (Inverting side)
8	Vo4	BTL AMP 2 input pin (Non inverting side)
9	Vg2	BTL AMP 2 input pin (For gain adjustment)
10	Vin2	BTL AMP 2 input pin
11	Reg Out	External transistor collector (PNP) connection. 5V power supply output
12	Reg In	External transistor (PNP) base connection
13	$\overline{\text{Res}}$	Reset output
14	Cd	Reset output delay time setting (Capacitor connected externally)
15	Vin3	BTL AMP 3 input pin
16	Vg3	BTL AMP 3 input pin (For gain adjustment)
17	Vo5	BTL AMP 3 output pin (Non inverting side)
18	Vo6	BTL AMP 3 output pin (Inverting side)
19	Vo7	BTL AMP 4 output pin (Inverting side)
20	Vo8	BTL AMP 4 output pin (Non inverting side)
21	Vg4	BTL AMP 4 output pin (For gain adjustment)
22	Vin4	BTL AMP 4 output pin
23	Vref	Level shift circuit's reference voltage application
24	Vcc	Power supply (Shorted to pin 1)

■ M66004SP(IC721):FL Driver

1.Block diagram

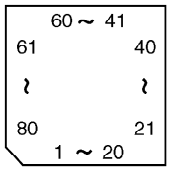


2.Pin function

Pin.No.	Symbol	I/O	Description
1~12	12G~1G	O	FL grid control signal output.
13	SRST	I	Reset signal input
14	FLCS	I	Chip select signal input.
15	FLCLK	I	Shift clock signal input.
16	FLDATA	I	Serial data input.
17	P1	O	Output port (static operation)
18	P0	O	Output port (static operation)
19	VCC1	-	Power supply for internal logic.
20	XOUT	O	Clock signal output.
21	XIN	I	Clock signal input.
22	VSS	-	Connect to ground.
23~31	P36~P28	O	FL Segment control signal output.
32	VP	-	Power supply.
33~59	P27~P01	O	FL Segment control signal output.
60	VCC2	-	Power supply for grid output and segment output.
61~64	16G~13G	O	FL grid control signal output.

■ MN662790RSC(IC651):Digital servo & processor

1.Pin layout



2.Pin function

MN662790RSC (1/2)

Pin No.	Symbol	I/O	Description
1	BCLK	O	Bit clock output for SRDATA
2	LRCK	O	Identifying signal output of L,R
3	SRDATA	O	Serial data output
4	DVDD1	-	Power supply for digital circuit
5	DVSS1	-	Connect to ground for digital circuit
6	TX	O	Digital audio interface output signal
7	MCLK	I	Micom command clock signal input
8	MDATA	I	Micom command data signal input
9	MLD	I	Micom command load signal input L:load
10	SENSE	-	Non connect
11	FLOCK	-	Non connect
12	TLOCK	-	Non connect
13	BLKCK	O	Sub code block clock signal (Command execution : CD-TEXT data readout enabling signal (DQSY) output)
14	SQCK	I	Export clock signal input for sub code Q resister
15	SUBQ	O	Sub code Q data output
16	DMUTE	I	Muting input H:muting
17	STAT	O	Status signal output
18	LSI_RST	I	Reset signal input L:reset
19	SMCK	O	Clock signal output MSEL is H : 8.4672 MHz MSEL is L : 4.2336 MHz
20	CSEL	I	Oscillation frequency specification terminal H:33.8688 MHz L:16.9344 MHz
21	TEST2	-	TEST2 terminal usually : open
22	TVD	O	Traverse drive output
23	PC	-	Non connect
24	ECM	O	Spindle motor drive signal output (Compulsion mode output)
25	ECS	O	Spindle motor drive signal output (Servo error signal output)
26	VDETMON	-	Non connect
27	TRD	O	Tracking drive signal output
28	FOD	O	Focus drive signal output
29	VREF	-	Reference voltage for DA output section
30	FBAL	O	Focus balance adjust signal output
31	TBAL	O	Tracking balance adjust signal output
32	FE	I	Focus error signal input (analog input)
33	TE	I	Tracking error signal input (analog input)
34	RFENV	I	RF Envelope signal input (analog input)
35	TEST3	I	TEST3 Terminal usually : Fixation L
36	OFT	I	Off track signal input H : off track
37	TRCRS	I	Track cross signal input (analog input)
38	RFDET	I	RF detection signal input L : detection
39	BDO	I	Dropout signal input H : dropout
40	LDON	-	Non connect

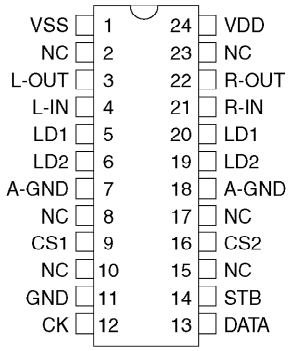
2.Pin function

MN662790RSC (2/2)

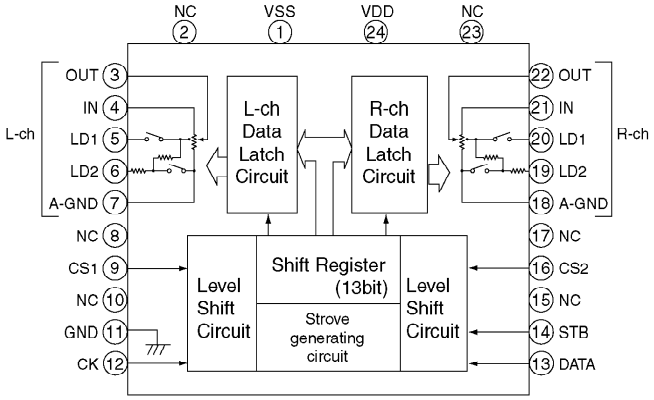
Pin No.	Symbol	I/O	Functions
41	PLLF2	I/O	Terminal for loop filter characteristic switch for PLL
42	DSLBDA	-	Non connect
43	WVEL	-	Non connect
44	ARF	I	RF Signal output
45	IREF	I	Standard electric current input terminal
46	DRF	I	Bias terminal for DSL
47	DSLF	I/O	Loop filter terminal for DSL
48	PLLF	I/O	Loop filter terminal for PLL
49	VCOF	I/O	Loop filter terminal for VCO
50	AVDD2	-	Power supply terminal for analog circuit
51	AVSS2	-	Connect to ground terminal for analog circuit
52	EFM	-	Non connect
53	DSLB	O	PLL extraction clock output
54	VCOF2	I/O	Loop filter terminal for VCO
55	SUBC	O	Sub code serial output
56	SBCK	I	Clock signal input for sub code serial output
57	VSS	-	Connect to ground terminal for oscillation circuit
58	X1	I	Oscillation circuit input terminal f=16.9344 MHz, 33.8688 MHz
59	X2	O	Oscillation circuit output terminal f=16.9344 MHz, 33.8688 MHz
60	VDD	-	Power supply terminal for oscillation circuit
61	BYTCK	-	Non connect
62	LDON	O	Laser ON signal output H : ON
63	GCTRL	O	General I/O port
64	IPFLAG	-	Non connect
65	FLAG	O	Flag signal output
66	CLVS	-	Non connect
67	CRC	-	Non connect
68	DEMPH	O	De-emphasis detection signal output
69	RESY	-	Non connect
70	IOSEL	I	Mode switch terminal
71	TEST	I	TEST terminal usually : H
72	AVDD1	-	Power supply terminal for analog circuit (for audio output section)
73	OUTL	O	Lch audio output
74	AVSS1	-	Connect to ground terminal for analog circuit (for audio output section)
75	OUTR	O	Rch audio output
76	DQSY	I	RF signal polarity specification terminal
77	VCC5V	-	Power supply terminal (5V)
78	PSEL	O	IOSEL=H TEST terminal IOSEL=L SRDATA input
79	MSEL	O	IOSEL=H SMCK terminal output (frequency switch terminal) IOSEL=L LRCK input
80	SSEL	O	IOSEL=H SUBQ terminal output mode switch terminal IOSEL=L BCLK input

■ TC9412AF-X(IC891) : Rec Level

1.Pin layout



2.Block diagram

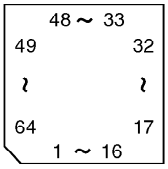


3.Pin functions

Pin No.	Symbol	Description
1	VSS	Negative power supply temrinal
2	NC	Non connect
3	L-OUT	L-ch Volume output terminal
4	L-IN	L-ch Volume input terminal
5	LD1	L-ch Loudness tap output terminal
6	LD2	L-ch Loudness tap output terminal
7	A-GND	L-ch Analog ground
8	NC	Non connect
9	CS1	Chip select input terminal
10	NC	Non connect
11	GND	Digital ground
12	CK	Data transfer clock input terminal
13	DATA	Volume setup serial data input terminal
14	STB	Data write strobe input terminal
15	NC	Non connect
16	CS2	Chip select terminal
17	NC	Non connect
18	A-GND	R-ch Analog ground
19	LD2	R-ch Loudness tap output terminal
20	LD1	R-ch Loudness tap output terminal
21	R-IN	R-ch Volume input terminal
22	R-OUT	R-ch Volume output terminal
23	NC	Non connect
24	VDD	Positive power supply terminal

■ UPD780076502(IC251):Unit microcomputer

1.Pin layout



2.Pin function

UPD780076GK502 1/2

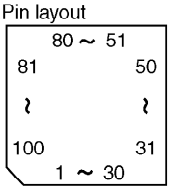
Pin No.	Symbol	I/O	Description
1	E2SCK	O	Serial clock output to IC201
2	E2SDL	I/O	Serial data input/output with IC201
3	MCS	I	Communication method selection input from system microcomputer L : Synchronization H : Asynchronous
4	MRDY	O	Signal output to system microcomputer by which command can be received L→H : Status output enable H→L : command can be received
5	ITRVP3	I	Play position switch (SW3) detection input
6	ITRVP2	I	Play position switch (SW2) detection input
7	ITRVP1	I	Play position switch (SW1) detection input
8	ITRYSoc	I	Sub tray open/close detection switch input
9	VSS0	-	Connect to ground
10	VDD0	-	Power supply terminal (+)
11	RESET	I	REST switch detection input (traverse mechanism)
12,13		-	Non connect
14	ICAMP1	I	Cam switch position 1 input
15	KCMND/TXD	I/O	Command input from system microcomputer (synchronization) or status output (asynchronous)
16	MSTAT/RXD	I/O	Status output to system microcomputer (synchronization) or command input (asynchronous)
17	KCLK	I	System microcomputer data/serial/clock input
18	SUBQ	I	Sub code Q data input
19	CDCOPY	O	Right or wrong of CD copy signal output
20	SQCK	O	Clock output for sub code Q register
21	CDINDEX	O	CD index information
22	CDTNO	O	CD track information
23	ICAMP2	I	Cam switch position 2 input
24	VDD1	-	Power supply terminal (+)
25	AVSS	-	Connect to ground for A/D converter
26	VDET_LEVEL	I	Input for vibration detecting changeable level
27	KEY2	I	Output voltage monitor of regulator (IC291)
28	TRY3CLOSE	I	Main tray 3 close switch detection input
29	TRY3OPEN	I	Main tray 3 open switch detection input
30	TRY2CLOSE	I	Main tray 2 close switch detection input
31	TRY2OPEN	I	Main tray 2 open switch detection input
32	TRY1OPEN	I	Main tray 1 open switch detection input
33	TRY1CLOSE	I	Main tray 1 close switch detection input
34	AVREF	-	Standard voltage of A/D converter and analog power supply
35	CAM_CW	O	Cam motor drive signal output (clockwise)
36	RESET	I	System reset input

2.Pin function

Pin No.	Symbol	I/O	Description
37	XT2	-	Non connect
38	XT1	I	Sub system clock oscillation terminal
39	IC	I	Connect to ground
40	X2	O	Main system clock output
41	X1	I	Main system clock input
42	VSS1	-	Connect to ground
43	FLAG	I	Flag (C1 error) signal input
44	BLKCK	I	Sub code/block/clock signal input
45	RFDET	I	RF signal detection input
46	CAM_CCW	O	Cam motor drive signal output (counterclockwise)
47	ACT_CCW	O	Actuator motor drive signal output (counterclockwise)
48	ACT_CW	O	Actuator motor drive signal output (clockwise)
49		-	Non connect
50	EQX2	O	Equalizer switch output (H:one time velocity L:double-speed/four time velocity)
51	ICAMP3	I	Cam switch position 3 input
52	ICAMP4	I	Cam switch position 4 input
53	RESET	O	Reset output to IC651
54	STAT	I	Status signal input from IC651
55	DMUTE	O	Muting output to IC651 H : muting
56	P.ON	O	Control signal output of 3.5V regulator (IC291)
57	MLD	O	Command load signal output to IC651
58	MDATA	O	Command data signal output to IC651
59	MCLK	O	Command clock signal output to IC651
60	CLKSW	O	Clock output control terminal to the outside
61	EQX4	I	Equalizer switch output (H:one time velocity/double-speed L:four time velocity)
62,63		-	Non connect
64	DR_MUTE	O	Driver IC muting output H : muting

■ UPD784214525(IC501):System controller

1.Pin layout



2.Pin function

UPD784214AGF514 1/2

Pin No.	Symbol	I/O	Description
1~3	NC	-	Non connect
4	TEST-	I	Test mode input terminal L : Test mode
5	VR_STB	O	Strobe signal output to IC891
6	VR_DATA	O	Data output to IC891
7	VR_CK	O	Clock signal output to IC891
8	NC	-	Non connect
9	VDD	-	Power supply terminal +5V
10,11	CS1/CS2	I	Chip select terminal
12,13	JOGA/JOGB	I	Multi jog dial A/B input
14	FLDAT	O	Serial data output to FL driver
15	FLCLK	O	Shift clock signal output to FL driver
16	FLCS	O	Chip select signal output to FL driver L : data output
17~19	MPLAY/REC/STOP	-	Non connect
20	DIN_COA	O	When digital input is coaxial for output H
21	AIN_HI	O	LINE IN gain control output H : high gain
22	VPP	-	Connect to ground
23	DIG_LED	O	Digital LED control signal output
24	CD_LED	O	CD LED control signal output
25	LIN_LED	O	Line IN LED control signal output
26	MIC_LED	O	MIC LED control signal output
27	MIXBL	-	Non connect
28	LLEVE	I	Mix balance volume level input
29	DIN_OPT	O	When digital input is optical for output H
30	SMUTE	O	System muting signal output
31	DACMUTE	-	Non connect
32	CD_DRT	O	It is a power output to the direct connection of analog recording source 3CD to the A/D input of CD-RW as for L
33	SCD	O	Analog recording source 3CD select control output L : selected 3CD
34,35	SLIN1/SLIN2	O	Analog recording source select control output
36	SMIC	O	Analog recording source MIC select control output L : selected MIC
37	VDD	-	Power supply terminal +5V (connects with the backup capacitor at power supply off.)
38	X2	O	Main system clock output terminal 10MHz
39	X1	I	Main system clock input terminal 10MHz
40	VSS	-	Connect to ground
41	XT2	O	Sub clock output terminal 32.768KHz
42	XT1	I	Sub clock input terminal 32.768KHz

2.Pin function

UPD784214AGF514 2/2

Pin No.	Symbol	I/O	Description
43	RESET	I	Reset signal input
44	REM	I	Remote control signal input
45	NC	-	Non connect
46	ACON	I	The AC power supply existence detection terminal L : No AC power supply (backup mode) H : AC power supply having (normal mode : Backup mode Release)
47	CDR_RREQ	I	Request demand input from CD-RW unit
48	NC	-	Non connect
49	DOCD	O	Output select control H : selected 3CD L : selected CD-RW
50	SLCDR	O	Output select control H : selected CD-RW L : selected 3CD
51	AVDD	-	Power supply terminal +5V (connects with the backup capacitor at power supply off.)
52	AVREF0	-	Power supply terminal +5V
53~56	KEY1~4	I	Operation switch input terminal 1~4
57	NC	-	Non connect
58	3CDINR	I	3CD analog signal level input (for Rch level meter)
59	3CDINL	I	3CD analog signal level input (for Lch level meter)
60	MODE	I	DCS mode setting switch input
61	AVSS	-	Connect to ground
62	DCSI	I	DCS command input
63	DCSO	O	DCS command output
64	AVREF1	-	Power supply terminal +5V
65	NBUSI	I	Connect to Q541
66	NBUSO	-	Non connect
67	ASCK2	-	Connect to ground
68	STAT	I	3CD status input
69	COMD	O	3CD command output
70	ASCK1	I	Connect to ground
71	SRST	O	System reset signal output L : active
72	POWER	O	System power supply control terminal / standby LED control H : power OFF / LED turning off L : power ON / LED lighting
73	CDR_DTI	I	Serial data input from CD-RW unit
74	CDR_DTO	O	Serial data output to CD-RW unit
75	XDR_ACLK	I	Clock signal input from CD-RW unit
76	CDR_SREQ	O	Request signal output to CD-RW unit L : active
77	SYS_RDY	O	System ready output to CD-RW unit L : active
78	NC	-	Non connect
79	DACPD	O	DAC power down control output
80	NC	-	Non connect
81	3CD_RES	O	Reset signal output to 3CD unit micom (IC251)
82	NC	-	Non connect
83	DOCDR	O	Output select control H : selected CD-RW L : selected 3CD
84		-	Power supply terminal 5V
85~90	GND	-	Connect to ground
91	CS3	I	Chip select terminal
92~97	GND	-	Connect to ground
98	CDRRST	O	Reset signal output to CD-RW unit L : reset ON
99	STBY_LED	O	Standby LED control signal output L : lighting
100	VSS	-	Connect to ground

15. Schematic Diagram Notes

This schematic diagram may be modified at any time with the development of new technology.

Notes:

- S71 : POWER ⏻/I switch.

- S702 : STOP ■ switch. (3-CD changer)

- S703 : PLAY MODE switch.

- S704 : PAUSE ❚❚ switch. (3-CD changer)
- S705 : CD EDIT switch.
- S706 : PLAY ▶ switch. (3-CD changer)
- S707 : CANCEL switch.
- S708 : SET switch.
- S710 : CD REC switch.
- S721 : STOP ■ switch. (CD-R)
- S722 : PAUSE ❚❚ switch. (CD-R)
- S723 : PLAY ▶ switch. (CD-R)
- S724 : REC/ REC MUTE switch.
- S725 : SYNCHRO switch.
- S726 : MENU switch.
- S751 : TRAY 3 OPEN/ CLOSE ⏏ switch.
- S752 : TRAY 2 OPEN/ CLOSE ⏏ switch.
- S753 : TRAY 1 OPEN/ CLOSE ⏏ switch.
- S754 : DISC 3 SELECTOR switch.
- S755 : DISC 2 SELECTOR switch.
- S756: DISC 1 SELECTOR switch.
- S760: CD-R TRAY OPEN/ CLOSE ⏏ switch.
- S761: FINALIZE switch.
- S762: REC SOURCE SELECTOR switch.
- SW1: TRAY 1 OPEN DETECTION switch.
- SW2: TRAY 1 CLOSE DETECTION switch.
- SW3: TRAY 2 OPEN DETECTION switch.
- SW4: TRAY 2 CLOSE DETECTION switch.
- SW5: TRAY 3 OPEN DETECTION switch.
- SW6: TRAY 3 CLOSE DETECTION switch.
- SW680: CAM switch.
- SW690: P.POSITION 1 switch.
- SW691: P.POSITION 2 switch.
- SW692: P.POSITION 3 switch.
- SW693: SUB OP/CL switch.
- VR71: PHONES LEVEL (Volume) control V.R.
- VR641: MIX BALANCE control V.R.
- JS721: MULTI JOG/ REC LEVEL control encoder.
- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance)

with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internalimpedance of the DC circuit tester.

No mark: CD STOP
( ): CD play [1kHz, L+R, 0dB]

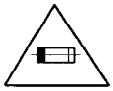
Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purpose of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacture's specified parts shownin the parts list.

Caution!

IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
Cover the parts boxes made of plastics with aluminum foil.
Ground the soldering iron.
Put a conductive mat on the work table.
Do not touch the legs of IC or LSI with the fingers directly.

Voltage and signal lines
: Positive voltage line
: Negative voltage line
: CD Playback signal line

CAUTION : FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE **F9001, F9002 1A 125V FUSE, F9003, F9004 2A 125V FUSE, F9005 1.5A 125V FUSE.**



RISK OF FIRE-REPLACE FUSE AS MARKED.

FUSE CAUTION

These symbols located near the fuse indicates that the fuse used is a fast operating type. For continued protection against fire harzard, replace with the same type fuse. For fuse rating, refer to the marking adjacent to the symbol.

Ce symbole indique que le fusible utilisé est à rapide. Pour une protection permanente, n' utiliser que des fusibles de même type. Ce dernier est indiqué là qù le présent symbole est apposé.

16. Schematic Diagram

17. Printed Circuit Board

18. Block Diagram

19. Wiring Connection Diagram

20. Replacement Parts List

Notes:
***Important safety notice:**
Components identified by ⚠ mark have special characteristics important for safety. Funrthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.
***Warning: This product uses a laser diode. Refer to caution statements.**
***Capacity values are in microfarads (uF) unless specified otherwise, P=Pico-farads (pF) F= Farads (F)**
***Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM), 1M=1,000K (OHM)**
***All parts are supplied by SPC.**
***The "<IA>" mark in Remarks indicate languages of instruction manual. [<IA>: English/ Canada French]**

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	LE10256-001A	FRONT PANEL	1	
2	VGB0298	PANASONIC BADGE	1	
3	LE30956-001A	WINDOW SCREEN	1	
4	QYSBSGY3008M	SCREW	9	
5	LE30958-001A	INDICATOR	1	
6	RKW0273-N	REMOTE LENS	1	
7	LE20592-001A	P.BUTTON	1	
8	LE30957-001A	INDICATOR	1	
9	LE10248-003A	P.BUTTON	1	
10	LE20528-004A	P.BUTTON	1	
11	LE30894-002A	JOG KNOB	1	
12	LV40061-004A	KNOB	2	
13	LE40791-001A	H.P.BRACKET	1	
14	LE40844-001A	NUT	1	
15	QYSDSF2608Z	SCREW	20	
16	QQR1254-001	FERRITE CORE	2	
17	QQR1240-001	FERRITE CORE	1	
18	QQR1240-002	FERRITE CORE	1	
19	QQR1255-001	FERRITE CORE	1	
20	QZF6019-001	FOOT	4	
21	E406308-004	SCREW	4	
22	QYSBST3010Z	SCREW	4	
23	LV31244-002A	SPACER	2	
24	QYSDSG3008M	SCREW	2	
25	QYSBSGY3008N	SCREW	2	
26	QYSBST3006Z	SCREW	23	
27	LV20009-314A	TOP COVER	1	
28	LV30225-090A	SPACER	2	
29	LV30225-079A	SPACER	1	
30	VYSH101-009	SPACER	3	
31	QYSBSTG3006Z	SCREW	6	
32	QMF51U11R0J8	FUSE 1A(F9001,9002)	2	⚠
33	QMF51U12R0J8	FUSE 2A(F9003,9004)	2	⚠
34	QQT0307-001	POWER TRANSFORMER(T9001)	1	⚠
35	QMF51U11R6J8	FUSE 1.5A(F9005)	1	⚠
36	QYSBSG3008E	SCREW	3	
37	QYSDSG3008N	SCREW	3	
38	QJJ015061001	SIN CR C-C WIRE(6P)	1	
39	QUQ4121134CJ	FFC(11P)	1	
40	QUQ4121917CJ	FFC(19P)	1	
41	QUQ4121318CJ	FFC(13P)	1	
42	LE20564-003A	FITTING(1)	1	
43	LE20565-003A	FITTING(2)	1	
44	LE20566-003A	FITTING(3)	1	
45	EMU-R7-1M	CDR UNIT	1	
46	LE20530-002A	FITTING	1	
47	LV41617-001A	CDR MARK	1	
48	QUQ1100808AJ	FFC(8P)	1	
49	QUQ1101912AJ	FFC(19P)	1	
50	QUQ1100828AJ	FFC(8P)	1	
51	QUQ1102310AJ	FFC(23P)	1	
52	QUQ4120720CJ	FFC(7P)	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
53	QMPD100-200K	POWER SUPPLY CORD	1	⚠
54	QHS4077-108	S.R BUSHING	1	
101	LV20581-001A	CHASSIS UNIT	1	
102	RF500TB12560	MOTOR	2	
103	VKS5548-001	MOTOR PULLEY	2	
104	QYSPSP2603Z	SCREW	4	
105	LV31586-001A	SELECT GEAR	1	
106	LV41427-001A	SELECT SPRING	1	
107	LV20588-001A	GEAR BASE UNIT	1	
108	QYSDST2606Z	SCREW	13	
109	LV41431-001A	BELT	2	
110	LV20586-003A	SUB CHAS. UNIT	1	
111	OPTIMA-725B1	CD PICK-UP	1	⚠
112	LV32013-003A	RACK ARM	1	
113	QYSPSPT1720M	SCREW	2	
114	LV31744-001A	P.S.SPRING	1	
115	QYSPSGT1425M	SCREW	1	
116	VKS1161-006	T.MECHA CHASSIS	1	
117	LV31745-001A	TURN TABLE ASSY	1	
118	QAR0123-001	SPINDLE MOTOR	1	
119	VKZ4743-001	SCREW	2	
120	WFM214025	WASHER	1	
121	VKS5556-001	S.S. GEAR	1	
122	VKS5557-001	F.M. GEAR	1	
123	PPN-13KA10C	FEED MOTOR	1	
124	VWE29207AZAZ	UL VINYL WIRE	1	
125	VWE29008AZAZ	WIRE	1	
126	VKS5558-001	MIDDLE GEAR	1	
127	VKM3904-001	SHAFT HOLDER	1	
128	VKZ4248-204	SCREW	1	
129	QYSPSPL2004Z	SCREW	1	
130	LVB30006002A	FPC	1	
131	LV41424-001A	SCREW	3	
132	LV41659-001A	INSULATOR	3	
133	LV31799-001A	CLAMPER UNIT	1	
134	QYSBSF2608Z	SCREW	9	
135	LV20594-002A	SIDE(R) UNIT	1	
136	VSH1173-001	LEAF SWITCH(S699)	1	
137	LV31575-001A	CLICK SPRING	1	
138	LV10308-001A	SIDE BKT(L)	1	
139	EMV7169-006R	CONNECTOR(CN699)	1	
140	VKZ4781-002	SCREW SHAFT	1	
141	LV32067-001A	FLAP BASE UNIT	1	
142	LV20590-002A	TRAY UNIT	3	
143	LV10309-001A	TOP COVER	1	
144	LV41429-002A	ROD	2	
A1	RQT6087-Y	INSTRUCTION MANUAL	1	<IA>
A2	RJL2P004B08A	PIN CORD	2	
A3	YU20333	SAFETY INST.MANUAL	1	
A4	RAK-PR300	REMOCON UNIT	1	
A4-1	RFKMPR300BT	REMOCON BATTERY COVER	1	
A5	LV32110-001A	CAUTION SHEET	1	
A6	LV42668-001A	CAUTION SHEET	1	

[illegible]	[illegible]	[illegible]	[illegible]	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
A7	RQA0149-1	WARRANTY CARD	1	
A8	RQF4066	WARRANTY CARD	1	
A9	RQCB0831	SVC CENTER LIST	1	
B100-21	NRS181J0R0NY	1/8W 0	22	
B123-46	NRS181J0R0NY	1/8W 0	24	
B147-49	NRSA63J-0R0X	1/16W 0	3	
B151-55	NRSA63J-0R0X	1/16W 0	5	
B157,58	NRSA63J-0R0X	1/16W 0	2	
B159	NRS181J0R0NY	1/8W 0	1	
B160,61	NRSA63J-0R0X	1/16W 0	2	
B162	NRSA02J0R0AY	1/4W 0	1	
B163-66	NRSA63J-0R0X	1/16W 0	4	
B167	NRS181J0R0NY	1/8W 0	1	
B169-71	NRSA63J-0R0X	1/16W 0	3	
B173,74	NRSA02J0R0AY	1/4W 0	2	
B175	NRSA63J-0R0X	1/16W 0	1	
B853,54	NRSA63J-0R0X	1/16W 0	2	
B2200	NRSA63J-0R0X	1/16W 0	1	
B2210,11	NRSA63J-0R0X	1/16W 0	2	
B3603	NRSA02J0R0AY	1/4W 0	1	
B3611-13	NRSA63J-0R0X	1/16W 0	3	
C71	NCB31HK-103X	50V 0.01U	1	
C72	QER61AM-107Z	10V 100U	1	
C73	NCB31HK-681X	50V 680P	1	
C111	QTE1V06-106Z	35V 10U	1	
C112	NFV41HJ-221X	50V 220P	1	
C113	NFV41HJ-151X	50V 150P	1	
C114	QTE1V06-106Z	35V 10U	1	
C131	NFV41HJ-561X	50V 560P	1	
C151	QETN1HM-475Z	50V 4.7U	1	
C171	QENC1HM-225Z	50V 2.2U	1	
C172	QETN1HM-475Z	50V 4.7U	1	
C181	NCB31HK-222X	50V 0.0022U	1	
C182	QTE1E06-226Z	25V 22U	1	
C201	NCF31CZ-104X	16V 0.1U	1	
C211	QTE1V06-106Z	35V 10U	1	
C212	NFV41HJ-221X	50V 220P	1	
C213	NFV41HJ-151X	50V 150P	1	
C214	QTE1V06-106Z	35V 10U	1	
C231	NFV41HJ-561X	50V 560P	1	
C250	NCB31CK-104X	16V 0.1U	1	
C251	QETN1HM-475Z	50V 4.7U	1	
C253	NCB31CK-104X	16V 0.1U	1	
C254	QERF0JM-476Z	6.3V 47U	1	
C271	QENC1HM-225Z	50V 2.2U	1	
C272	QETN1HM-475Z	50V 4.7U	1	
C281	NCB31HK-222X	50V 0.0022U	1	
C282	QTE1E06-226Z	25V 22U	1	
C291,92	NCB21CK-105X	16V 1U	2	
C301	NCF31CZ-104X	16V 0.1U	1	
C303	NCS31HJ-270X	50V 27P	1	
C311	NCB21HK-104X	50V 0.1U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C341,42	QCZ0205-155Z	25V 1.5U	2	
C351	NCF31CZ-104X	16V 0.1U	1	
C352	QETN1CM-107Z	16V 100U	1	
C353	NCF31CZ-104X	16V 0.1U	1	
C354	NCB21HK-104X	50V 0.1U	1	
C355	NCS31HJ-101X	50V 100P	1	
C356	QETN1EM-476Z	25V 47U	1	
C357	NCS31HJ-151X	50V 150P	1	
C358	NCB31HK-221X	50V 220P	1	
C359	NCB31EK-223X	25V 0.022U	1	
C361	QCZ0205-155Z	25V 1.5U	1	
C362	QETN1AM-227Z	10V 220U	1	
C363	NCF31CZ-224X	16V 0.22U	1	
C364	NCB31HK-103X	50V 0.01U	1	
C365	QCZ0205-155Z	25V 1.5U	1	
C366	QETN0JM-108Z	6.3V 1000U	1	
C368	QCZ0205-155Z	25V 1.5U	1	
C370,71	NCF31CZ-104X	16V 0.1U	2	
C375	QCZ0205-155Z	25V 1.5U	1	
C376	QETN0JM-108Z	6.3V 1000U	1	
C502	QETN1HM-475Z	50V 4.7U	1	
C504	NCB31HK-103X	50V 0.01U	1	
C507,08	NCS31HJ-220X	50V 22P	2	
C511-13	NCF31CZ-104X	16V 0.1U	3	
C601,02	NCB31HK-102X	50V 0.001U	2	
C603,04	NCB31HK-223X	50V 0.022U	2	
C605	NCS31HJ-271X	50V 270P	1	
C606	NCS31HJ-820X	50V 82P	1	
C610	NCB31CK-563X	16V 0.056U	1	
C611	NCB31CK-104X	16V 0.1U	1	
C612	QERF1HM-104Z	50V 0.1U	1	
C614	NCB31CK-393X	16V 0.039U	1	
C615	NCB31HK-272X	50V 0.0027U	1	
C616	NCB31HK-681X	50V 680P	1	
C617	NCB31HK-331X	50V 330P	1	
C621	NCB31CK-104X	16V 0.1U	1	
C622	QERF1AM-107Z	10V 100U	1	
C623	NCF31AZ-105X	10V 1U	1	
C624	QERF1AM-107Z	10V 100U	1	
C625	NCB31CK-104X	16V 0.1U	1	
C631	QERF1CM-106Z	16V 10U	1	
C632	NCF31AZ-105X	10V 1U	1	
C633	NCB31HK-223X	50V 0.022U	1	
C641	NCS31HJ-150X	50V 15P	1	
C642	NCS31HJ-220X	50V 22P	1	
C643	NCS31HJ-6R0X	50V 6P	1	
C651,52	NCS31HJ-1R0X	50V 1P	2	
C653	NCB31AK-334X	10V 0.33U	1	
C655	NCB31CK-104X	16V 0.1U	1	
C656	NCB11EK-104X	25V 0.1U	1	
C657	QERF1AM-227Z	10V 220U	1	
C658	NCB31CK-104X	16V 0.1U	1	
C659	NCB31CK-473X	16V 0.047U	1	
C661	NCS31HJ-471X	50V 470P	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C663,64	NCB31HK-223X	50V 0.022U	2	
C665	NCB31AK-154X	10V 0.15U	1	
C667	NCB31AK-474X	10V 0.47U	1	
C669	QERF1AM-227Z	10V 220U	1	
C673	QERF1AM-227Z	10V 220U	1	
C676,77	NCB31CK-104X	16V 0.1U	2	
C679	QERF1AM-107Z	10V 100U	1	
C680	NCB31CK-104X	16V 0.1U	1	
C691,92	NCS31HJ-102X	50V 0.001U	2	
C693,94	NCB31HK-272X	50V 0.0027U	2	
C695	NCB31CK-104X	16V 0.1U	1	
C710	NCF31CZ-104X	16V 0.1U	1	
C722	NCF31CZ-104X	16V 0.1U	1	
C723	QER61CM-476Z	16V 47U	1	
C724	NCF31CZ-104X	16V 0.1U	1	
C725	QER61CM-476Z	16V 47U	1	
C741	NCB31HK-103X	50V 0.01U	1	
C743	QER61AM-107Z	10V 100U	1	
C749	NCS31HJ-101X	50V 100P	1	
C801	NCF31CZ-104X	16V 0.1U	1	
C801A	NCB31HK-223X	50V 0.022U	1	
C802	QTE1E28-476Z	25V 47U	1	
C802A	NCS31HJ-102X	50V 0.001U	1	
C803	NCF31CZ-104X	16V 0.1U	1	
C804	QTE1E28-476Z	25V 47U	1	
C805	NCF31CZ-104X	16V 0.1U	1	
C811	NCS31HJ-270X	50V 27P	1	
C811A	NCS31HJ-391X	50V 390P	1	
C812	QETN1AM-477Z	10V 470U	1	
C812A-14	NCS31HJ-391X	50V 390P	3	
C815	NCB21AK-105X	10V 1U	1	
C816	NCB20JK-155X	6.3V 1.5U	1	
C821	NCF31AZ-105X	10V 1U	1	
C822	QERF1AM-227Z	10V 220U	1	
C830	QETN1HM-475Z	50V 4.7U	1	
C840	QETN1HM-475Z	50V 4.7U	1	
C851	QERF1CM-106Z	16V 10U	1	
C852,53	NCB31HK-103X	50V 0.01U	2	
C855	NCB31CK-104X	16V 0.1U	1	
C859,60	NCF31AZ-105X	10V 1U	2	
C871	NCB31HK-103X	50V 0.01U	1	
C872	QETN1EM-476Z	25V 47U	1	
C873	NCB31HK-103X	50V 0.01U	1	
C874	QETN1EM-476Z	25V 47U	1	
C881	QETN1HM-105Z	50V 1U	1	
C901	QETM1EM-228	25V 2200U	1	
C902	QETM1EM-108	25V 1000U	1	
C903	QETN1EM-476Z	25V 47U	1	
C904	QETN1AM-107Z	10V 100U	1	
C905,06	QTE1E28-107Z	25V 100U	2	
C907	QETN1HM-225Z	50V 2.2U	1	
C908	QETM0JM-338	6.3V 3300U	1	
C909-13	QCF31HZ-103Z	50V 0.01U	5	
C915	QETN1CM-107Z	16V 100U	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C916	QETN1CM-477Z	16V 470U	1	
C917	QETM1EM-688	25V 6800U	1	
C918	QETN0JM-108Z	6.3V 1000U	1	
C921	QETM1EM-688	25V 6800U	1	
C922	QCF31HZ-103Z	50V 0.01U	1	
C923	QETN1HM-105Z	50V 1U	1	
C924	QETN0JM-108Z	6.3V 1000U	1	
C926,27	QCF31HZ-103Z	50V 0.01U	2	
C932	QETN1AM-477Z	10V 470U	1	
C933	QETN0JM-108Z	6.3V 1000U	1	
C941	QETN1HM-227Z	50V 220U	1	
C942	QETN1JM-227Z	63V 220U	1	
C943,44	QETN1HM-106Z	50V 10U	2	
C945	QETN1CM-107Z	16V 100U	1	
C971	QETN1EM-476Z	25V 47U	1	
C972	QETN1CM-107Z	16V 100U	1	
C991	QETN1HM-474Z	50V 0.47U	1	
C992,93	NCB31HK-102X	50V 0.001U	2	
C1201	NCS31HJ-101X	50V 100P	1	
C1202,03	NCB31HK-103X	50V 0.01U	2	
C1301	QETN1HM-105Z	50V 1U	1	
C1303	QETN1HM-105Z	50V 1U	1	
C1312	QETN1AM-107Z	10V 100U	1	
C1322	QETN1HM-474Z	50V 0.47U	1	
C1401	QER61HM-475Z	50V 4.7U	1	
C1501	NFV41HJ-332X	50V 0.0033U	1	
C1502	NFV41HJ-181X	50V 180P	1	
C1503	NFV41HJ-333X	50V 0.033U	1	
C1505	QTE1E06-226Z	25V 22U	1	
C1506	NFV41CJ-332X	16V 0.0033U	1	
C1507	NFV41CJ-103X	16V 0.01U	1	
C2201	NCS31HJ-101X	50V 100P	1	
C2202,03	NCB31HK-103X	50V 0.01U	2	
C2301	QETN1HM-105Z	50V 1U	1	
C2303	QETN1HM-105Z	50V 1U	1	
C2322	QETN1HM-474Z	50V 0.47U	1	
C2401	QER61HM-475Z	50V 4.7U	1	
C2501	NFV41HJ-332X	50V 0.0033U	1	
C2502	NFV41HJ-181X	50V 180P	1	
C2503	NFV41HJ-333X	50V 0.033U	1	
C2505	QTE1E06-226Z	25V 22U	1	
C2506	NFV41CJ-332X	16V 0.0033U	1	
C2507	NFV41CJ-103X	16V 0.01U	1	
C6201	NCF31CZ-104X	16V 0.1U	1	
C6202	QETN1CM-107Z	16V 100U	1	
C6203	NCF31CZ-104X	16V 0.1U	1	
C6204	QETN1CM-107Z	16V 100U	1	
C6209	NCB31HK-103X	50V 0.01U	1	
C6210	NCF31CZ-473X	16V 0.047U	1	
C9300	QDYB1CM-103Y	16V 0.01U	1	
C9310	QDYB1CM-103Y	16V 0.01U	1	
CN10	QNZ0079-001Z	TAB I.M	1	
CN20	QNZ0079-001Z	TAB I.M	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
CN71	QGF1205C1-11	CONNECTOR(11P)	1	
CN401	QGD2503F1-05	SOCKET(5P)	1	
CN501	QGF1205C1-19	CONNECTOR(19P)	1	
CN505	QGF1205C1-06	CONNECTOR(6P)	1	
CN541	QGF1205F1-19	CONNECTOR(19P)	1	
CN601	QGF1016C1-21	CONNECTOR(21P)	1	
CN606	QGF1016F3-08	CONNECTOR(8P)	1	
CN608	QGF1016F3-04	CONNECTOR(4P)	1	
CN610	QGB1214J108S	CONNECTOR(8P)	1	
CN615	QGF1016C1-19	CONNECTOR(19P)	1	
CN616	QGF1016C1-08	CONNECTOR(8P)	1	
CN620	QGB1214J108S	CONNECTOR(8P)	1	
CN651	QGF1016F3-19	CONNECTOR(19P)	1	
CN711	QGF1205F1-11	CONNECTOR(11P)	1	
CN721	QGA2001C1-06	CONNECTOR(6P)	1	
CN722	QGF1016C1-23	CONNECTOR(23P)	1	
CN723	QGF1016C1-08	CONNECTOR(8P)	1	
CN801	QGF1205C1-13	CONNECTOR(13P)	1	
CN841	QGF1205C1-13	CONNECTOR(13P)	1	
CN901	QGD2501C104Z	SOCKET(4P)	1	
CN902	QGD2501C105Z	SOCKET(5P)	1	
D251	MA112-X	DIODE	1	
D301,02	DA114-X	DIODE	2	
D361	DA114-X	DIODE	1	
D501-04	DA114-X	DIODE	4	
D631	1SS355-X	DIODE	1	
D667	MA152WA-X	DIODE	1	
D726-29	DA114-X	DIODE	4	
D755-57	SLR-342VC-T	LED	3	
D759	SLR-342VC-T	LED	1	
D801	1SR154-400-X	DIODE	1	
D811	DA114-X	DIODE	1	
D812	1SR35-400AT5	DIODE	1	
D852	UDZS5.6B-X	DIODE	1	
D901-04	1SR35-400AT5	DIODE	4	⚠
D905	UDZS5.6B-X	DIODE	1	
D906,07	DA114-X	DIODE	2	
D908	UDZS10B-X	DIODE	1	
D909	DA114-X	DIODE	1	
D910-13	1SR35-400AT5	DIODE	4	
D914,15	DA114-X	DIODE	2	
D916	UDZS5.6B-X	DIODE	1	⚠
D921-24	1SR35-400AT5	DIODE	4	⚠
D925	DA114-X	DIODE	1	
D927	1SR35-400AT5	DIODE	1	
D928	UDZS6.2B-X	DIODE	1	⚠
D930	DA114-X	DIODE	1	
D941,42	1SR35-400AT5	DIODE	2	⚠
D943	UDZS36B-X	DIODE	1	
D944	DA114-X	DIODE	1	
D945	UDZS5.6B-X	DIODE	1	
D954,55	1SR35-400AT5	DIODE	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
D971	1SR35-400AT5	DIODE	1	⚠
D972	UDZS5.6B-X	DIODE	1	
D981,82	DA114-X	DIODE	2	
D991,92	DA114-X	DIODE	2	
D1301	DA114-X	DIODE	1	
D2301	DA114-X	DIODE	1	
DI721	QLF0088-001	FL DISPLAY TUBE	1	
FW71	QUM02513DGZ3	PARA RIBON WIRE	1	
FW91	QUM02912DGZ3	PARA RIBON WIRE	1	
IC71	GP1U281X	IC	1	
IC201	BR24C01AFVWX	IC	1	
IC251	UPD780076502	IC	1	
IC291	XC62HR3502PX	IC	1	
IC301	TC74HC00AF-X	IC	1	
IC302	TC7S08F-W	IC .	1	
IC311	TC74HC00AF-X	IC	1	
IC331	TC74HCU04AFW	IC	1	
IC361	MN35505-X	IC	1	
IC362	NJM4580M-X	IC	1	
IC501	UPD784214525	IC	1	
IC502	IC-PST600/HT	IC	1	
IC601	AN22000A-W	IC	1	
IC621	BA15218F-XE	IC	1	
IC651	MN662790RSC	IC	1	
IC721	M66004SP	IC	1	
IC722	BA15218F-XE	IC	1	
IC801	LA6541-X	IC	1	
IC811	NJM4580M-X	IC	1	
IC821	BU4066BCF-X	IC	1	
IC831	BU4066BCF-X	IC	1	
IC841	BU4066BCF-X	IC	1	
IC851	NJM4580L	IC	1	
IC851A	LB1641	IC	1	
IC852	LB1641	IC	1	
IC861	BU4066BCF-X	IC	1	
IC871	BA15218F-XE	IC	1	
IC881	NJM4580M-X	IC	1	
IC891	TC9412AF-X	IC	1	
IC901	BA05ST-V5	IC	1	C0CAZDG00001 ⚠
IC902	SI-3033C	IC	1	C0DAEGG00007 ⚠
IC921	UPC24M05AHF	IC	1	C0CAADG00012 ⚠
J351	GP1FA550TZ	JACK,OPT.OUT	1	B3ZAZ0000008
J352	GP1FA550RZ	JACK,OPT.IN	1	
J353,54	QNN0347-001	JACK,COAX IN/OUT	2	
J871	QNN0126-001	JACK,LINE OUT	1	
J6201	QNS0031-001	JACK,HEADPHONE	1	
JS721	QSW0446-001	ENCODER	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
K311	NQR0227-004X	FERRITE BEADS	1	
K351	NQR0227-004X	FERRITE BEADS	1	
K358	NQR0227-004X	FERRITE BEADS	1	
K381-83	NRSA63J-0R0X	MG RESISTOR,1/4W 0	3	
K384,85	NQR0227-004X	FERRITE BEADS	2	
K387	NQR0227-004X	FERRITE BEADS	1	
K391-93	NQR0227-004X	FERRITE BEADS	3	
K501	NQR0227-004X	FERRITE BEADS	1	
K655	NQR0007-002X	FERRITE BEADS	1	
K656-58	NQR0251-004X	FERRITE BEADS	3	
K801	QQR0779-001Z	INDUCTOR	1	
K1201	NQR0227-004X	FERRITE BEADS	1	
K2201	NQR0227-004X	FERRITE BEADS	1	
K6202	QQR1272-001	TOROIDAL COIL	1	
L9001	QQR0799-001	INDUCTOR	1	⚠
P1	LE31001-006A	PACKING CASE	1	
P2	LE20620-001A	P.PAD(F)	1	
P3	LE20621-001A	P.PAD(R)	1	
P4	QPC06506515P	POLY BAG(UNIT)	1	
P5	QPC02503510P	POLY BAG(FAN BAG)	1	
P6	QPA01502505	ENVELOPE(ACCESSORIES)	1	
Q181-83	2SC2001/LK/T	TRANSISTOR	3	
Q191	KRA103M-T	TRANSISTOR	1	
Q281-83	2SC2001/LK/T	TRANSISTOR	3	
Q301	KRC103M-T	TRANSISTOR	1	
Q501	DTC114ESA-T	TRANSISTOR	1	
Q601,02	DTC114EUA-X	TRANSISTOR	2	
Q631	2SA1037AKRSX	TRANSISTOR	1	
Q673	DTA114EUA-X	TRANSISTOR	1	
Q724	KRA103M-T	TRANSISTOR	1	
Q726-28	KTC3199/GL/T	TRANSISTOR	3	
Q729,30	KRA103M-T	TRANSISTOR	2	
Q731	KRC103M-T	TRANSISTOR	1	
Q821,22	KRA103M-T	TRANSISTOR	2	
Q831,32	KRA103M-T	TRANSISTOR	2	
Q841,42	KRA103M-T	TRANSISTOR	2	
Q861	KRA103M-T	TRANSISTOR	1	
Q862	KRC103M-T	TRANSISTOR	1	
Q881	2SA933AS/RST	TRANSISTOR	1	
Q901	2SC3422/OY/	TRANSISTOR	1	⚠
Q902	KTC3199/GL/T	TRANSISTOR	1	
Q903	2SK301/QR/-T	TRANSISTOR	1	
Q904	2SA933AS/RST	TRANSISTOR	1	
Q905	2SA1359/OY/	TRANSISTOR	1	⚠
Q906	2SK301/QR/-T	TRANSISTOR	1	
Q907	2SD1266/P/	TRANSISTOR	1	⚠
Q908	KTC3199/GL/T	TRANSISTOR	1	
Q941	2SB647/CD/-T	TRANSISTOR	1	⚠
Q971	2SC3422/OY/	TRANSISTOR	1	⚠
Q981,82	KRC103M-T	TRANSISTOR	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
Q1301	KRC103M-T	TRANSISTOR	1	
Q1401	KTC3199/GL/T	TRANSISTOR	1	
Q2301	KRC103M-T	TRANSISTOR	1	
Q2401	KTC3199/GL/T	TRANSISTOR	1	
R111	NRSA63J-223X	1/16W 22K	1	
R112,13	NRSA02F-223X	1/10W 22K	2	
R114	NRSA02F-222X	1/10W 2.2K	1	
R115	NRSA02F-152X	1/10W 1.5K	1	
R116	NRSA63J-473X	1/16W 47K	1	
R117	NRSA02F-152X	1/10W 1.5K	1	
R131	NRSA63J-473X	1/16W 47K	1	
R132	NRSA63J-123X	1/16W 12K	1	
R141	NRSA02J-122X	1/4W 1.2K	1	
R142	NRSA02J-102X	1/4W 1K	1	
R151	NRSA63J-0R0X	1/16W 0	1	
R171	NRSA63J-393X	1/16W 39K	1	
R172	NRSA63J-224X	1/16W 220K	1	
R173	NRSA63J-154X	1/16W 150K	1	
R174	NRSA63J-222X	1/16W 2.2K	1	
R175	NRSA63J-273X	1/16W 27K	1	
R176	NRSA63J-103X	1/16W 10K	1	
R177	NRSA63J-0R0X	1/16W 0	1	
R181	NRSA63J-473X	1/16W 47K	1	
R182	NRSA02J-471X	1/4W 470	1	
R183	NRSA63J-222X	1/16W 2.2K	1	
R184	NRSA02J-221X	1/4W 220	1	
R185	NRSA02J-102X	1/4W 1K	1	
R186	NRSA63J-472X	1/16W 4.7K	1	
R201	NRSA63J-103X	1/16W 10K	1	
R211	NRSA63J-223X	1/16W 22K	1	
R212,13	NRSA02F-223X	1/10W 22K	2	
R214	NRSA02F-222X	1/10W 2.2K	1	
R215	NRSA02F-152X	1/10W 1.5K	1	
R216	NRSA63J-473X	1/16W 47K	1	
R217	NRSA02F-152X	1/10W 1.5K	1	
R231	NRSA63J-473X	1/16W 47K	1	
R232	NRSA63J-123X	1/16W 12K	1	
R241	NRSA02J-122X	1/4W 1.2K	1	
R242	NRSA02J-102X	1/4W 1K	1	
R251	NRSA63J-0R0X	1/16W 0	1	
R251A	NRSA63J-102X	1/16W 1K	1	
R252-60	NRSA63J-102X	1/16W 1K	9	
R261	NRSA63J-0R0X	1/16W 0	1	
R270	NRSA63J-223X	1/16W 22K	1	
R271	NRSA63J-393X	1/16W 39K	1	
R271A	NRSA63J-223X	1/16W 22K	1	
R272	NRSA63J-224X	1/16W 220K	1	
R272A	NRSA63J-223X	1/16W 22K	1	
R273	NRSA63J-154X	1/16W 150K	1	
R273A	NRSA63J-223X	1/16W 22K	1	
R274	NRSA63J-222X	1/16W 2.2K	1	
R274A	NRSA63J-223X	1/16W 22K	1	
R275	NRSA63J-273X	1/16W 27K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R275A	NRSA63J-223X	1/16W 22K	1	
R276	NRSA63J-103X	1/16W 10K	1	
R277	NRSA63J-0R0X	1/16W 0	1	
R277A	NRSA63J-103X	1/16W 10K	1	
R278-80	NRSA63J-102X	1/16W 1K	3	
R281	NRSA63J-473X	1/16W 47K	1	
R281A	NRSA63J-102X	1/16W 1K	1	
R282	NRSA02J-471X	1/4W 470	1	
R283	NRSA63J-222X	1/16W 2.2K	1	
R283A	NRSA63J-102X	1/16W 1K	1	
R284	NRSA02J-221X	1/4W 220	1	
R284A	NRSA63J-102X	1/16W 1K	1	
R285	NRSA02J-102X	1/4W 1K	1	
R285A	NRSA63J-102X	1/16W 1K	1	
R286	NRSA63J-472X	1/16W 4.7K	1	
R286A	NRSA63J-102X	1/16W 1K	1	
R288	NRSA63J-103X	1/16W 10K	1	
R291,92	NRSA63J-1R0X	1/16W 1	2	
R293-95	NRSA63J-103X	1/16W 10K	3	
R301,02	NRSA02J-101X	1/4W 100	2	
R303	NRSA02J-181X	1/4W 180	1	
R305	NRSA02J-101X	1/4W 100	1	
R307	NRSA02J-750X	1/4W 75	1	
R308	NRSA02J-151X	1/4W 150	1	
R309	NRSA02J-270X	1/4W 27	1	
R311,12	NRSA63J-332X	1/16W 3.3K	2	
R315	NRSA02J-331X	1/4W 330	1	
R361	NRSA63J-332X	1/16W 3.3K	1	
R362	NRSA02J-102X	1/4W 1K	1	
R365	NRSA63J-273X	1/16W 27K	1	
R367	NRSA02J-270X	1/4W 27	1	
R368-70	NRSA02J-101X	1/4W 100	3	
R371	NRSA02J-270X	1/4W 27	1	
R383	NRSA02J-181X	1/4W 180	1	
R384	NRSA02J-100X	1/4W 10	1	
R385	NRSA02J-270X	1/4W 27	1	
R501	NRS144J-331X	1/4W 330	1	
R502	NRSA63J-104X	1/16W 100K	1	
R503	NRSA63J-223X	1/16W 22K	1	
R504	NRSA02J-102X	1/4W 1K	1	
R506	NRSA63J-473X	1/16W 47K	1	
R508	NRSA63J-223X	1/16W 22K	1	
R509,10	NRSA63J-104X	1/16W 100K	2	
R511,12	NRSA02J-102X	1/4W 1K	2	
R513	NRSA02J-151X	1/4W 150	1	
R514,15	NRSA02J-102X	1/4W 1K	2	
R519-22	NRSA02J-102X	1/4W 1K	4	
R523	NRSA63J-472X	1/16W 4.7K	1	
R526	NRS181J-473X	1/8W 47K	1	
R527-29	NRS181J-822X	1/8W 8.2K	3	
R530	NRSA63J-822X	1/16W 8.2K	1	
R533-35	NRSA63J-473X	1/16W 47K	3	
R536	NRSA63J-102X	1/16W 1K	1	
R539	NRSA63J-223X	1/16W 22K	1	

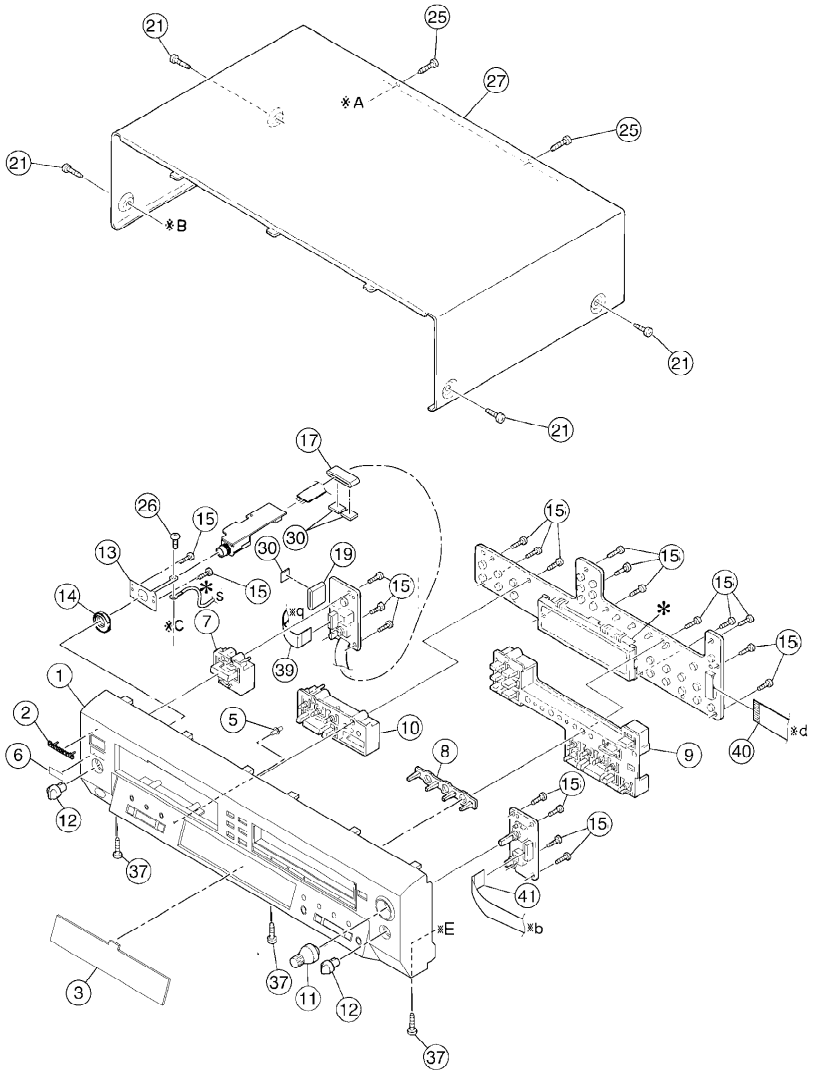
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R540	NRSA63J-473X	1/16W 47K	1	
R541	NRSA63J-223X	1/16W 22K	1	
R545	NRSA63J-223X	1/16W 22K	1	
R551	NRSA63J-472X	1/16W 4.7K	1	
R555,56	NRSA63J-473X	1/16W 47K	2	
R557	NRS181J-473X	1/8W 47K	1	
R558	NRSA63J-103X	1/16W 10K	1	
R561	NRSA02J-471X	1/4W 470	1	
R562	NRSA02J-102X	1/4W 1K	1	
R564,65	NRSA02J-471X	1/4W 470	2	
R566	NRSA02J-101X	1/4W 100	1	
R567	NRSA02J-102X	1/4W 1K	1	
R568-74	NRSA02J-101X	1/4W 100	7	
R580	NRSA02J-101X	1/4W 100	1	
R581	NRSA63J-0R0X	1/16W 0	1	
R599	NRSA02J-0R0X	1/4W 0	1	
R601	NRSA63J-224X	1/16W 220K	1	
R602	NRSA63J-823X	1/16W 82K	1	
R603	NRSA63J-393X	1/16W 39K	1	
R605	NRSA63J-224X	1/16W 220K	1	
R607,08	NRSA63J-473X	1/16W 47K	2	
R611	NRSA63J-562X	1/16W 5.6K	1	
R613	NRSA63J-562X	1/16W 5.6K	1	
R614	NRSA63J-0R0X	1/16W 0	1	
R617	NRSA63J-332X	1/16W 3.3K	1	
R631	NRSA02J-2R2X	1/4W 2.2	1	
R632	NRSA02J-3R9X	1/4W 3.9	1	
R634	NRSA02J-3R9X	1/4W 3.9	1	
R635	NRSA63J-100X	1/16W 10	1	
R636	NRSA63J-151X	1/16W 150	1	
R651-54	NRSA63J-102X	1/16W 1K	4	
R656	NRSA63J-102X	1/16W 1K	1	
R657	NRSA63J-101X	1/16W 100	1	
R658	NRSA63J-102X	1/16W 1K	1	
R659	NRSA63J-473X	1/16W 47K	1	
R661	NRSA63J-203X	1/16W 20K	1	
R662,63	NRSA63J-683X	1/16W 68K	2	
R664	NRSA63J-331X	1/16W 330	1	
R665	NRSA63J-101X	1/16W 100	1	
R666	NRSA02J-101X	1/4W 100	1	
R667	NRSA02J-4R7X	1/4W 4.7	1	
R668	NRSA63J-155X	1/16W 1.5M	1	
R669	NRSA63J-562X	1/16W 5.6K	1	
R670	NRSA02J-101X	1/4W 100	1	
R671	NRSA63J-684X	1/16W 680K	1	
R673	NRSA63J-683X	1/16W 68K	1	
R682	NRSA63J-102X	1/16W 1K	1	
R683	NRSA63J-105X	1/16W 1M	1	
R685	NRSA63J-683X	1/16W 68K	1	
R691,92	NRSA63J-681X	1/16W 680	2	
R695,96	NRSA63J-561X	1/16W 560	2	
R701	NRSA02J-102X	1/4W 1K	1	
R701A	NRSA63J-102X	1/16W 1K	1	
R702	NRSA02J-102X	1/4W 1K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R703	NRSA02J-122X	1/4W 1.2K	1	
R704	NRSA02J-182X	1/4W 1.8K	1	
R705	NRSA63J-272X	1/16W 2.7K	1	
R706	NRSA63J-332X	1/16W 3.3K	1	
R707	NRSA63J-562X	1/16W 5.6K	1	
R721,22	NRSA02J-102X	1/4W 1K	2	
R723	NRSA02J-122X	1/4W 1.2K	1	
R724	NRSA02J-182X	1/4W 1.8K	1	
R725	NRSA63J-272X	1/16W 2.7K	1	
R726	NRSA63J-332X	1/16W 3.3K	1	
R736-41	NRSA63J-333X	1/16W 33K	6	
R749	NRSA63J-223X	1/16W 22K	1	
R751,52	NRSA02J-102X	1/4W 1K	2	
R753	NRSA02J-122X	1/4W 1.2K	1	
R754	NRSA02J-182X	1/4W 1.8K	1	
R755	NRSA63J-272X	1/16W 2.7K	1	
R760,61	NRSA02J-102X	1/4W 1K	2	
R785-87	NRSA02J-331X	1/4W 330	3	
R795	NRSA02J-331X	1/4W 330	1	
R801	NRS144J-221X	1/4W 220	1	
R801A	NRSA63J-272X	1/16W 2.7K	1	
R802	NRS144J-221X	1/4W 220	1	
R802A	NRSA63J-152X	1/16W 1.5K	1	
R803	NRS144J-221X	1/4W 220	1	
R803A	NRSA63J-472X	1/16W 4.7K	1	
R804	NRS144J-221X	1/4W 220	1	
R804A	NRSA63J-103X	1/16W 10K	1	
R805	NRSA63J-562X	1/16W 5.6K	1	
R808	NRSA63J-183X	1/16W 18K	1	
R809	NRSA63J-472X	1/16W 4.7K	1	
R809A	NRSA63J-152X	1/16W 1.5K	1	
R810	NRS144J-221X	1/4W 220	1	
R811	NRSA63J-223X	1/16W 22K	1	
R811A	NRSA63J-473X	1/16W 47K	1	
R812	NRSA63J-0R0X	1/16W 0	1	
R812A	NRSA63J-152X	1/16W 1.5K	1	
R813	NRSA63J-182X	1/16W 1.8K	1	
R821	NRS144J-471X	1/4W 470	1	
R822	NRSA63J-103X	1/16W 10K	1	
R824,25	NRSA63J-563X	1/16W 56K	2	
R831	NRSA63J-222X	1/16W 2.2K	1	
R832	NRSA63J-103X	1/16W 10K	1	
R833,34	NRSA63J-473X	1/16W 47K	2	
R841	NRSA63J-222X	1/16W 2.2K	1	
R842	NRSA63J-103X	1/16W 10K	1	
R843,44	NRSA63J-473X	1/16W 47K	2	
R850	NRSA63J-473X	1/16W 47K	1	
R860	NRSA63J-473X	1/16W 47K	1	
R861	NRS144J-471X	1/4W 470	1	
R862	NRSA63J-103X	1/16W 10K	1	
R863,64	NRSA63J-473X	1/16W 47K	2	
R870-73	NRSA63F-104X	1/16W 100K	4	
R881	NRSA63J-103X	1/16W 10K	1	
R882	NRSA63J-223X	1/16W 22K	1	

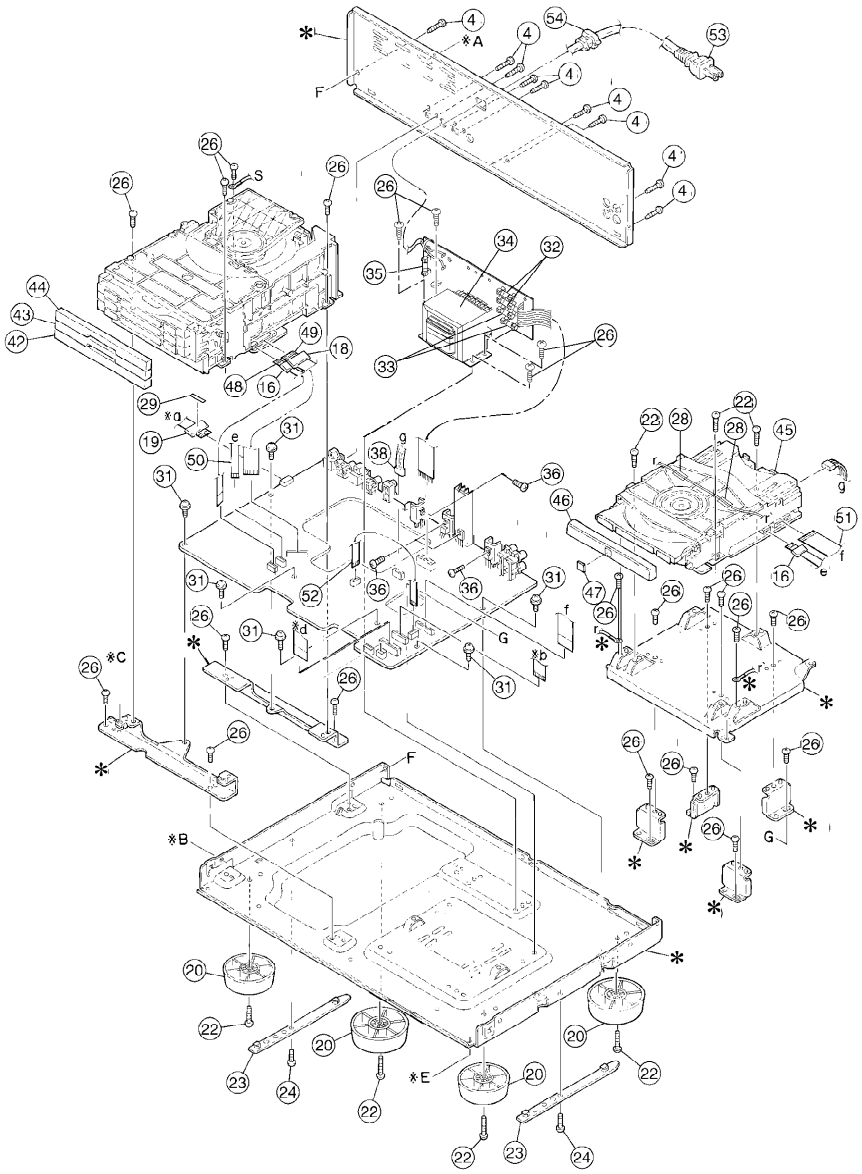
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R883	NRSA02J-101X	1/4W 100	1	
R901	QRZ9006-4R7X	4.7	1	⚠
R902	NRSA02J-222X	1/4W 2.2K	1	
R903	NRSA02J-622X	1/4W 6.2K	1	
R904	NRSA02J-472X	1/4W 4.7K	1	
R905	QRZ9006-4R7X	4.7	1	⚠
R906	NRSA02J-472X	1/4W 4.7K	1	
R908	NRSA02J-392X	1/4W 3.9K	1	
R911	NRSA02J-181X	1/4W 180	1	
R921	NRSA02J-222X	1/4W 2.2K	1	
R925,26	NRS144J-471X	1/4W 470	2	
R941	NRS144J-472X	1/4W 4.7K	1	
R942	QRJ146J-4R7X	4.7	1	⚠
R943	NRSA02J-333X	1/4W 33K	1	
R971	NRS144J-821X	1/4W 820	1	
R981	NRSA02J-101X	1/4W 100	1	
R982	NRSA02J-100X	1/4W 10	1	
R991,92	NRSA02J-103X	1/4W 10K	2	
R1201	NRSA63J-103X	1/16W 10K	1	
R1202	NRSA63J-104X	1/16W 100K	1	
R1204	NRSA63J-562X	1/16W 5.6K	1	
R1205	NRSA02J-680X	1/4W 68	1	
R1206	NRSA02J-820X	1/4W 82	1	
R1301	NRSA02J-152X	1/4W 1.5K	1	
R1302	NRSA63J-153X	1/16W 15K	1	
R1303	NRSA63J-224X	1/16W 220K	1	
R1304	NRSA63J-682X	1/16W 6.8K	1	
R1305	NRSA63J-273X	1/16W 27K	1	
R1306	NRSA63J-823X	1/16W 82K	1	
R1307	NRSA63J-153X	1/16W 15K	1	
R1312	NRSA02J-681X	1/4W 680	1	
R1313	NRSA63J-153X	1/16W 15K	1	
R1401,02	NRSA63J-223X	1/16W 22K	2	
R1403	NRSA63J-103X	1/16W 10K	1	
R1404	NRSA63J-823X	1/16W 82K	1	
R1501-03	NRSA02F-183X	1/10W 18K	3	
R1504	NRSA02F-222X	1/10W 2.2K	1	
R1505-07	NRSA63J-332X	1/16W 3.3K	3	
R1510	NRSA63F-162X	1/16W 1.6K	1	
R1511,12	NRSA63J-273X	1/16W 27K	2	
R2201	NRSA63J-103X	1/16W 10K	1	
R2202	NRSA63J-104X	1/16W 100K	1	
R2204	NRSA63J-562X	1/16W 5.6K	1	
R2205	NRSA02J-680X	1/4W 68	1	
R2206	NRSA02J-820X	1/4W 82	1	
R2301	NRSA02J-152X	1/4W 1.5K	1	
R2302	NRSA63J-153X	1/16W 15K	1	
R2303	NRSA63J-224X	1/16W 220K	1	
R2304	NRSA63J-682X	1/16W 6.8K	1	
R2305	NRSA63J-273X	1/16W 27K	1	
R2306	NRSA63J-823X	1/16W 82K	1	
R2307	NRSA63J-153X	1/16W 15K	1	
R2401,02	NRSA63J-223X	1/16W 22K	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R2403	NRSA63J-103X	1/16W 10K	1	
R2404	NRSA63J-823X	1/16W 82K	1	
R2501-03	NRSA02F-183X	1/10W 18K	3	
R2504	NRSA02F-222X	1/10W 2.2K	1	
R2505-07	NRSA63J-332X	1/16W 3.3K	3	
R2510	NRSA63F-162X	1/16W 1.6K	1	
R2511,12	NRSA63J-273X	1/16W 27K	2	
R5010	NRSA63J-272X	1/16W 2.7K	1	
S71	QSW0683-001Z	PUSH SWITCH	1	
S702-08	QSW0683-001Z	PUSH SWITCH	7	
S710	QSW0683-001Z	PUSH SWITCH	1	
S721-26	QSW0683-001Z	PUSH SWITCH	6	
S751-56	QSW0683-001Z	PUSH SWITCH	6	
S760-62	QSW0683-001Z	PUSH SWITCH	3	
SW1-W6	QSW0844-001	PUSH SWITCH	6	
SW680	QSW0865-001	CAM SWITCH	1	
SW690-93	QSW0886-002	DETECT SWITCH	4	
T301	QQR1185-001	PULSE TRANSFORMER	1	
VA1001	QAF0058-361Z	VARISTOR	1	⚠
VR71	QVQ0301-A14	V.R.,HEADPHONE	1	
VR641	QVQ0115-W15	V.R.,MIX BALANCE	1	
W1200	QUB22022HPDM	SIN TWIST WIRE	1	
W1220	QUB22005HPDM	SIN TWIST WIRE	1	
X251	QAX0684-001Z	C RESONATOR	1	
X501	QAX0356-001Z	RESONATOR	1	
X502	QAX0401-001	CRYSTAL	1	
X651	QAX0599-001Z	CRYSTAL	1	

21. Cabinet Parts Location



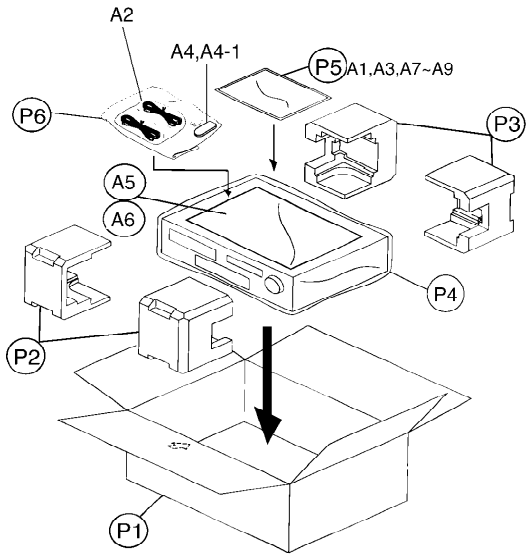
Note : We do not supply those items of parts marked ✻.



Note : We do not supply those items of parts marked ✻.

22. Changer Mechanism Parts Location

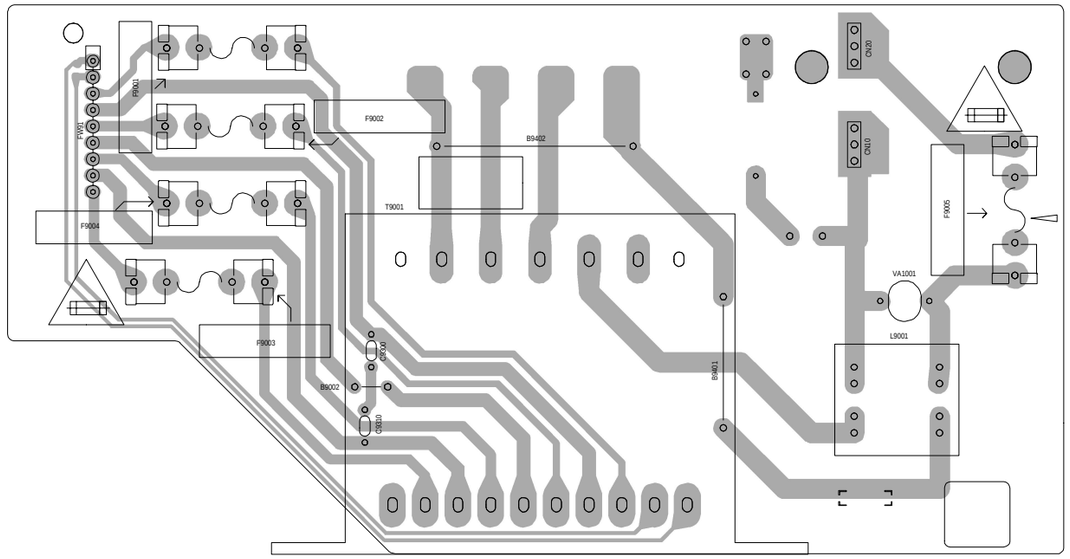
23. Packaging



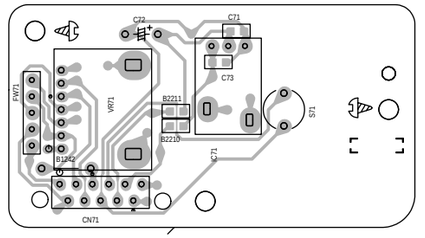
24. Schematic Diagram for printing with A4 size

H010900000 TN/AM

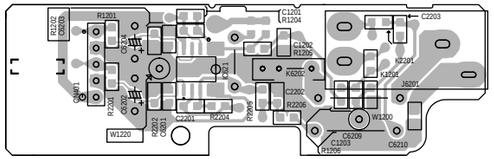
B POWER TRANSFORMER P.C.B.



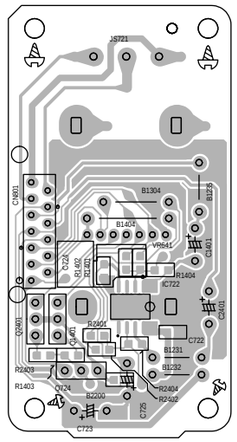
C POWER SW P.C.B.



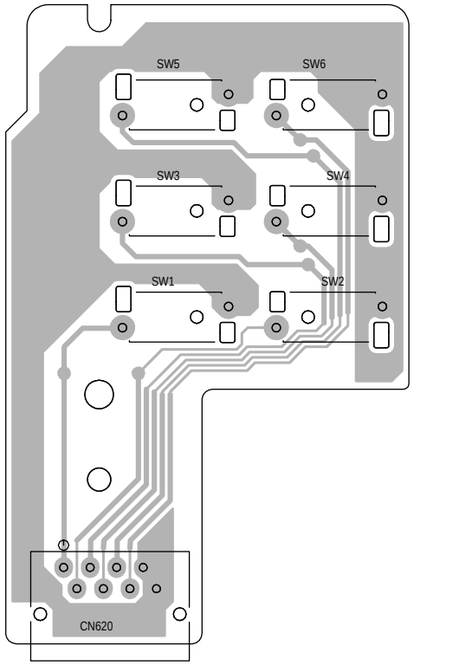
E HEADPHONE P.C.B.



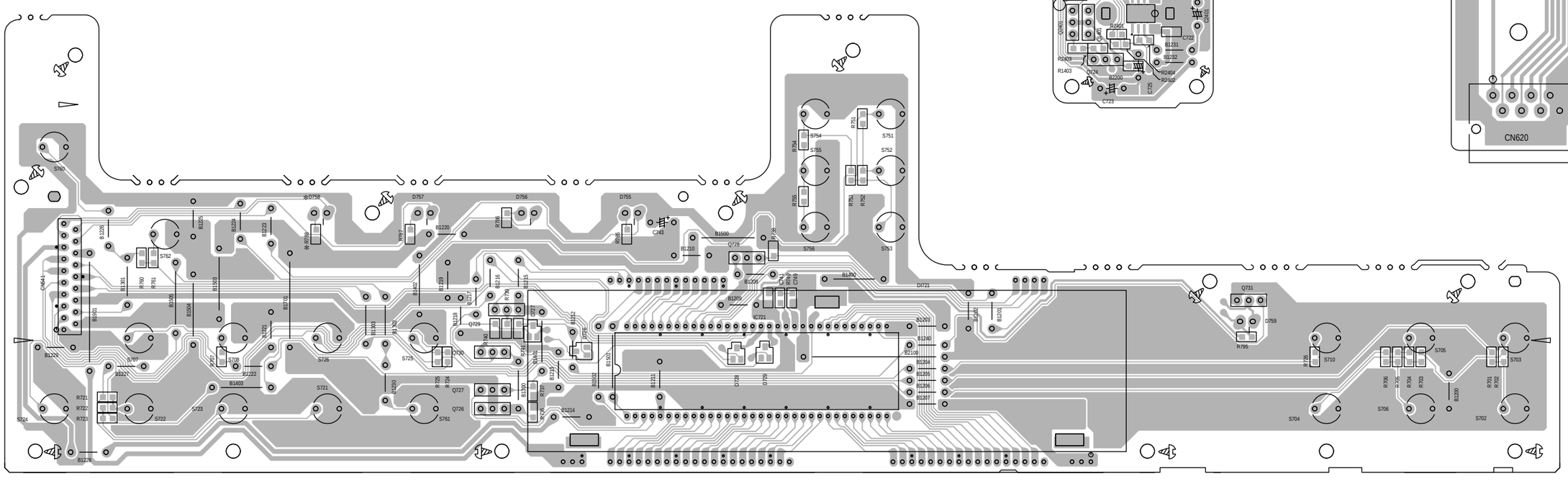
D MULTI JOG P.C.B.



H DETECTION SW P.C.B.



F FL P.C.B.

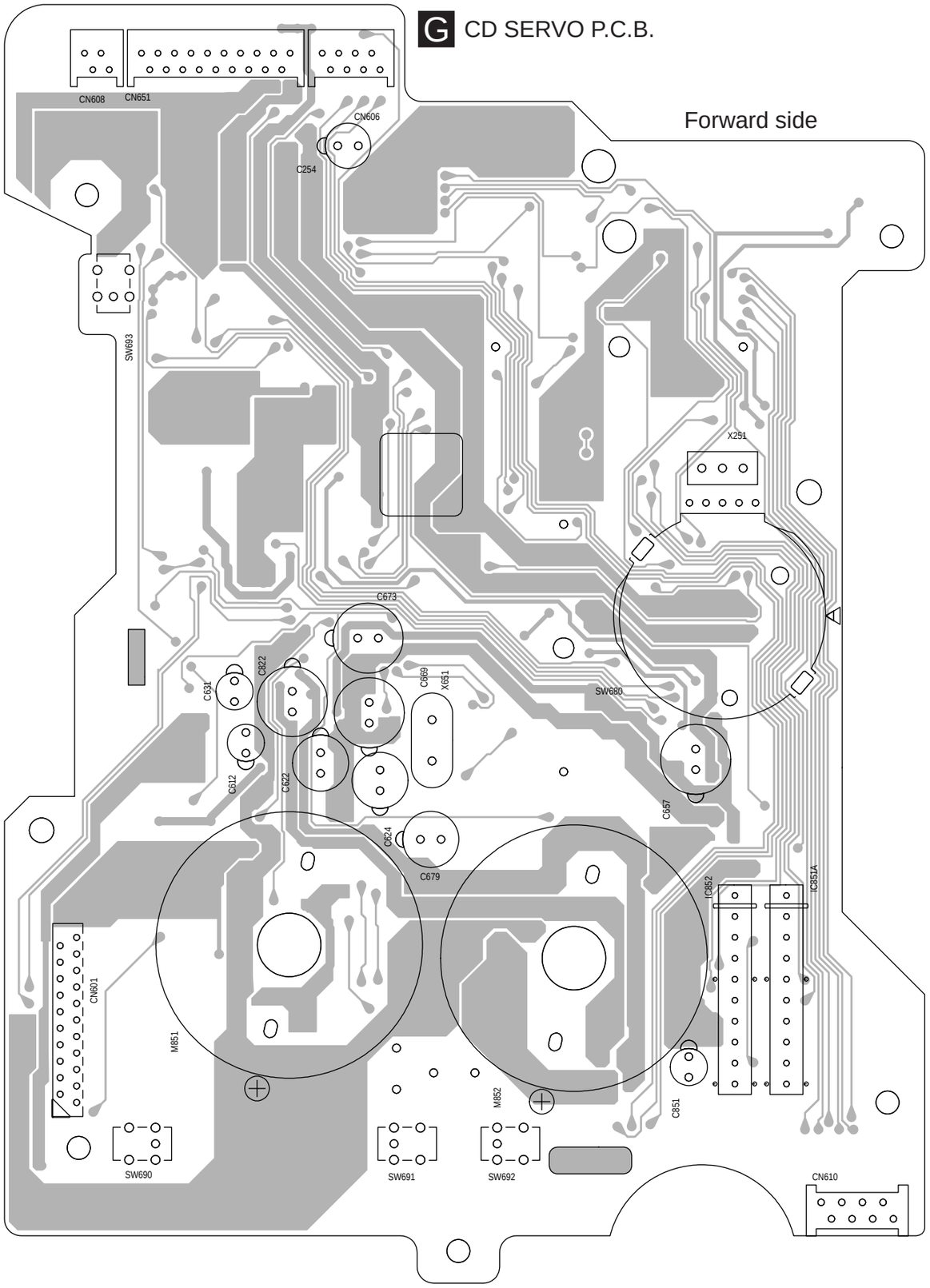


*:These parts haven t been used on the circuit.
(These parts are not mentioned in the Schematic diagram and the Replacement parts list .)

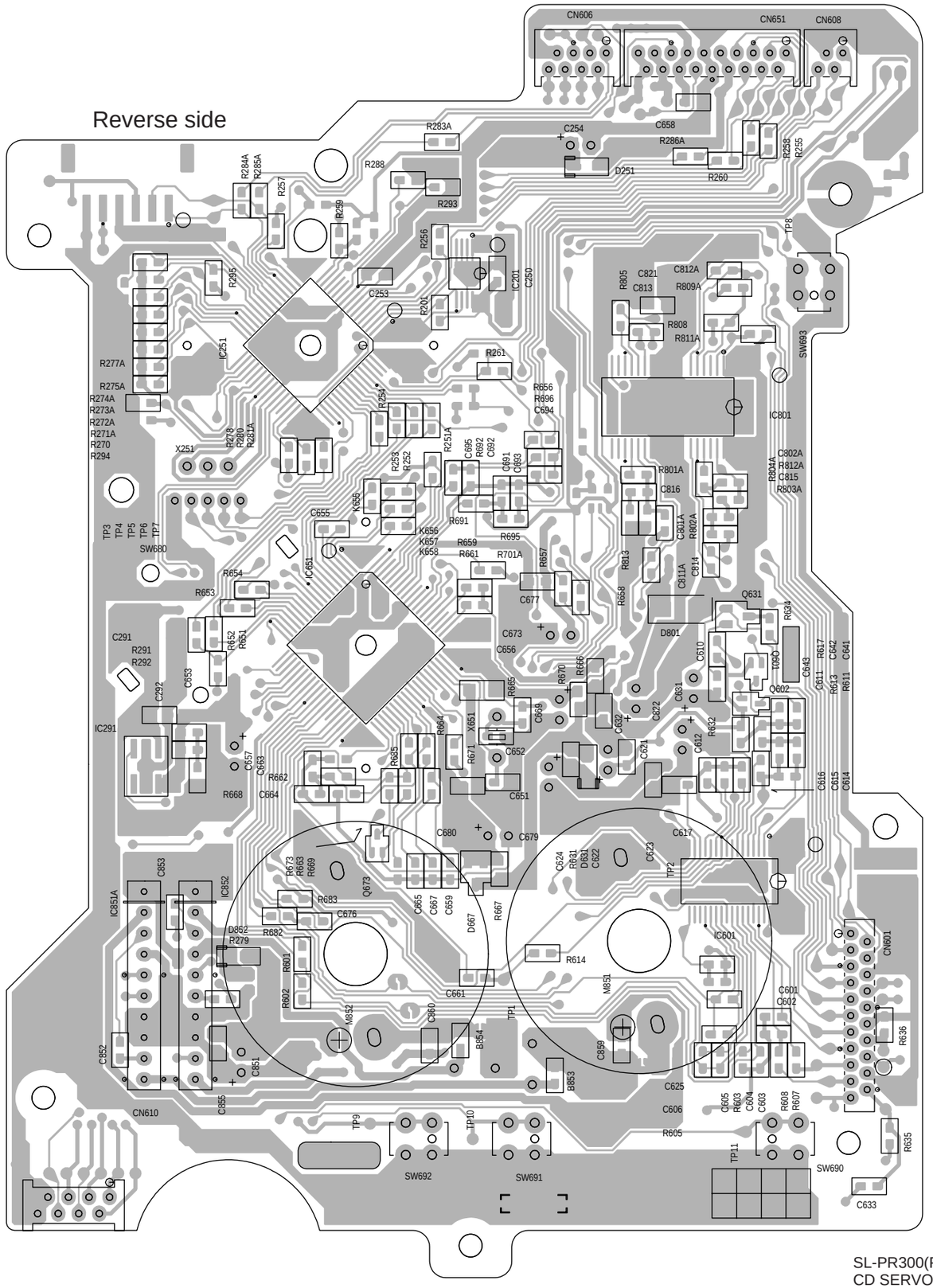
SL-PR300(PP)
POWER TRANSFORMER
POWER SW,MULTI JOG,
HEADPHONE,FL,
DETECTION SW P.C.B

G CD SERVO P.C.B.

Forward side



Reverse side



SL-PR300(PP)
CD SERVO P.C.B.

⚠ D945
UDZS5.6B ⟶ UDZS7.5B

A8728
SEP. 18. 2001

A MAIN CIRCUIT

:CD PLAYBACK SIGNAL LINE
:POSITIVE VOLTAGE LINE
:NEGATIVE VOLTAGE LINE

To G CD SERVO CIRCUIT(CN651) on SEET 4/4

TO CDR UNIT POWER SUPPLY

To D MULTI JOG CIRCUIT (CN801) on SEET 3/4

LEB10019-A1

B POWER TRANSFORMER CIRCUIT

LEB10043-A2

* PARTS LIST

VERSION	u/c
F9001 F9002	QMF51U1-1RO-JB (1A/125V)
F9003	QMF51U1-2RO-JB (2A/125V)
F9004	QMF51U1-2RO-JB (2A/125V)
F9005	QMF51U1-1R6-JB (1.6A/125V)
T9001	QUT0307-001

VERSION CODES	
J	U.S.A/CANADA
C	CANADA

NOTES
UNLESS OTHERWISE SPECIFIED.
ALL RESISTORS ARE 1/10W or 1/16W ±5% THICK FILM CHIP RESISTORS.
ALL RESISTANCE VALUES ARE IN OHM(Ω).
ALL CAPACITANCE VALUES ARE IN μF(P=pF).
ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF)/RATED VOLTAGE (V).
ALL DIODES ARE DA114-X

SHEET 1/4

SL-PR300(PP)
MAIN,POWER TRANSFORMER SCHEMATIC DIAGRAM

C501 Addition
A8728 SEP. 18. 2001

A MAIN CIRCUIT

:CD PLAYBACK SIGNAL LINE
:POSITIVE VOLTAGE LINE
:NEGATIVE VOLTAGE LINE

NOTES
UNLESS OTHERWISE SPECIFIED.
ALL RESISTORS ARE 1/10W or 1/16W ±5% THICK FILM RESISTORS.
ALL RESISTANCE VALUES ARE IN OHM(Ω).
ALL CAPACITANCE VALUES ARE IN μF(PmF).
ALL E-CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF)/RATED VOLTAGE (V).
ALL DIODES ARE DA114-X
ALL FERRITE BEADS ARE NQR0227-004X

TO CDR UNIT
CN723 QGF1016C1-08
CN722 QGF1016E1-23

To G CD SERVO CIRCUIT(CN606) on SEET 4/4

CN616 QGF1016C1-08

IC341 MN6890X-A DAC
IC851 NJM4580L
IC891 TC9412AF-X
IC302 TC7S08F-W
IC311 TC74HC00AF-X
IC301 UPD78214AGF525 MICON
IC501 IC-PST600Hi-T
IC502 IC-PST600Hi-T

Q301 KRC103M-T
Q851 KRC103M-T
T301 QQE1185-001

NFV41HJ-181
NFV41HJ-282
NFV41HJ-333
NFV41C3-103X

GTE1E06-226Z

CD DIRECT SW
DIGITAL OUT SEL.
DIGITAL IN SEL.

3CD.RES~
SYS.RES~
CDR.DIR
CDR.CLK
CDR.DTT
IPOW~1
SHRTT
ASENS
CDRE
STAT
ASCKO
NRES
AVREF
DOSO
DOSI
AVSS
MODE
3CD1N
3CD2N
NC
KEY4
KEY3
KEY2
KEY1
AVREF
AVDD
SLCDR
DOCD
NC
CDR_RRED
ACON
NC
REM
RESET~
XT1
XT2
VSS
X1
VDD
SMIC
SLIN2~
SLIN1~
SCD
CD_DAT~
DACMUTE~

REC 4.8V 10ms. 2V/DIV.
PLAY 4.8V T≒48ms.
PLAY/REC 4.8V T≒10ms.
F=32kHz 2.4V P-P
F=10MHz 2.6V P-P

CORRST~
STBY.LED
TEST~
VR_STB
VR_DATA
VR_CK
MCS
MDOUT
MDIN
MCLK
3CDLOUT
3CDROUT
3CDLIN
3CDRIN
MSOUT
MSIN
MSCK
MSRQ
IR.RECI
DIN.OPT
DIN.COA
ATN.HI
VPP
VDD
STAT
COMD
D.GND
RESET~
KEY1
KEY2
KEY3
KEY4
SRST~
SLCS~
SLCLK
SLDAT
M/C.LED~
LIN.LED~
CD.LED~
SIG.LED~
F1
F2
STBY.LED
30MHz
10MHz
X501 QAX0356-001Z
X502 QAX0481-001
X503 QAX0482-001

OPT OUT
OPT IN
COAX IN
COAX OUT
J352 GP1FAS60TZ
J353 QNN0347-001
J354 QNN0347-001

EPS41 E40918Z-0013H
EPS01 QNZ0135-001Z
EPS02 QNZ0136-001Z
EPS03 QNZ0136-001Z
EPS04 QNZ0136-001Z

CN701 QGF1205F1-11

To C POWER SW CIRCUIT(CN71) on SEET 3/4

To F FL CIRCUIT (CN541) on SEET 3/4

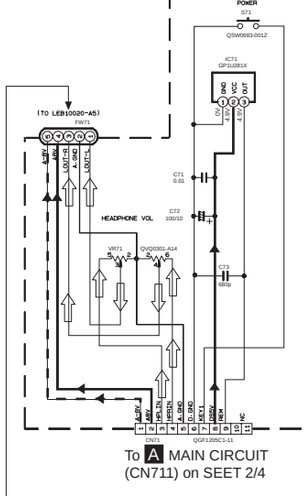
FOR FLASH WRITING

LEB10019-A1

SL-PR300(PP)
MAIN SCHEMATIC DIAGRAM

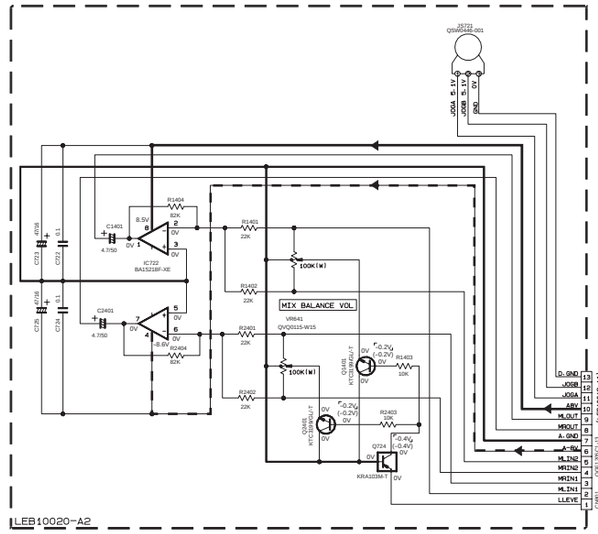
C POWER SW CIRCUIT

LEB10020-A6



To A MAIN CIRCUIT (CN711) on SEET 2/4

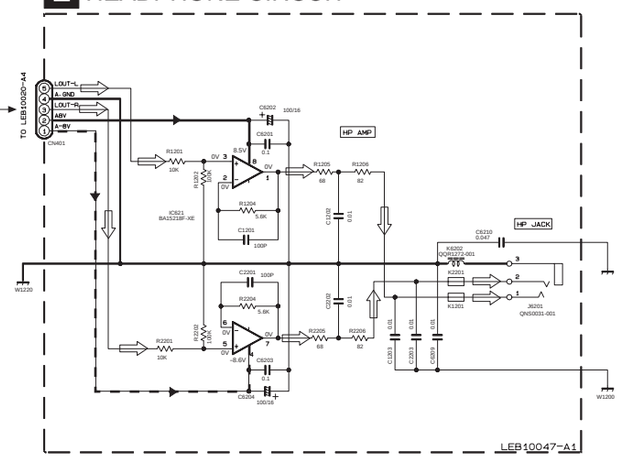
D MULTI JOG CIRCUIT



LEB10020-A2

To A MAIN CIRCUIT (CN841) on SEET 1/4

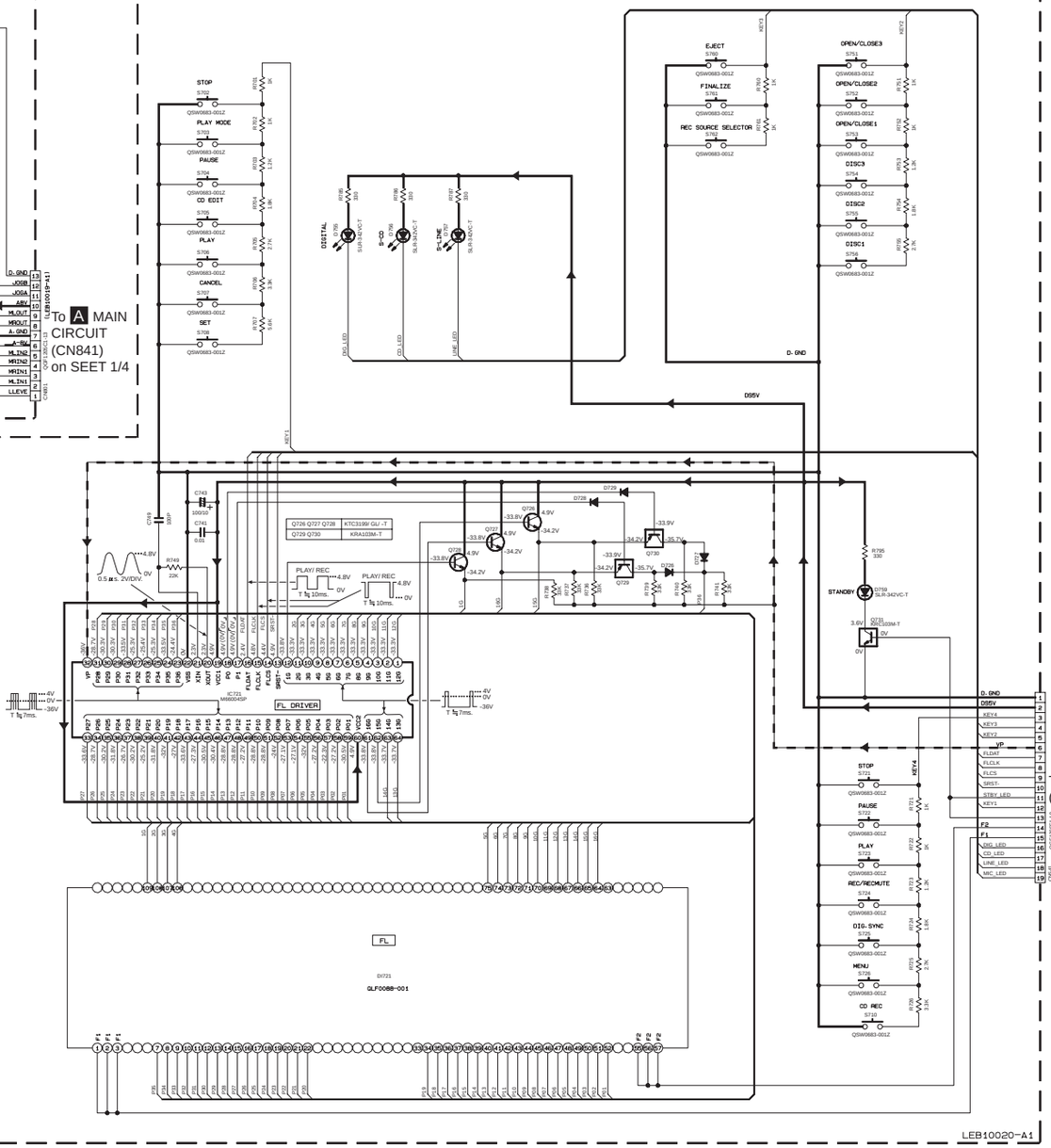
E HEADPHONE CIRCUIT



LEB10047-A1

F FL CIRCUIT

:CD PLAYBACK SIGNAL LINE
:POSITIVE VOLTAGE LINE
:NEGATIVE VOLTAGE LINE



To A MAIN CIRCUIT (CN501) on SEET 2/4

LEB10020-A1

NOTES

UNLESS OTHERWISE SPECIFIED.
ALL RESISTORS ARE 1/10W or 1/16W ±5% THICK FILM RESISTORS.
ALL RESISTANCE VALUES ARE IN OHM(Ω).
ALL CAPACITANCE VALUES ARE IN μF(P=pF).
ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF)/RATED VOLTAGE (V).
ALL DIODES ARE DA114-X

SHEET 3/4

SL-PR300(PP)
POWER SW,MULTI JOG,HEADPHONE,FL SCHEMATIC DIAGRAM

G CD SERVO CIRCUIT

:POSITIVE VOLTAGE LINE ⇨ :CD PLAYBACK SIGNAL LINE

H DETECTION SW CIRCUIT

LVA10270-01A1

SW1~SW6
QSW0844-001

TRY10PEN
TRY1CLOSE
TRY20PEN
TRY2CLOSE
TRY30PEN
TRY3CLOSE
GND

CAM SW QSW0865-001
1 CAM1
2 CAM2
3 CAM3
4 CAM4
CAM

ACTU MOTOR
RF-500TB-12560
CAM MOTOR

ACTU MOTOR DRIVER
IC851A LB1641

CAM MOTOR DRIVER
IC852 LB1641

PICKUP A'SSY
OPTIMA-725
HQ100063

TRACKING COIL
FOCUSING COIL

REST SW.
VSH1175-001
FEED MOTOR
PPN-13KA32C
SPINDLE MOTOR
QAR0123-001

TRVERSE MECHA P.W.B VMW2958

RF & SERVO AMP
IC601
MB3048APWT

FOCUS & SPINDLE & FEED & TRACKING BTL DRIVER
IC801
LA6516-X

DIGITAL SERVO & PROCESSER
IC651
MN662790RSC

UNIT MICON
IC251
UPD78075GK552

IC301
BR24C16FVM-X

IC291
S-812C40UA-X

QAX0599-001Z
X651

QAX0684-001Z
X251

To A MAIN CIRCUIT (CN615) on SEET 1/4

To A MAIN CIRCUIT (CN616) on SEET 2/4

LVA10268-01A1

NOTES

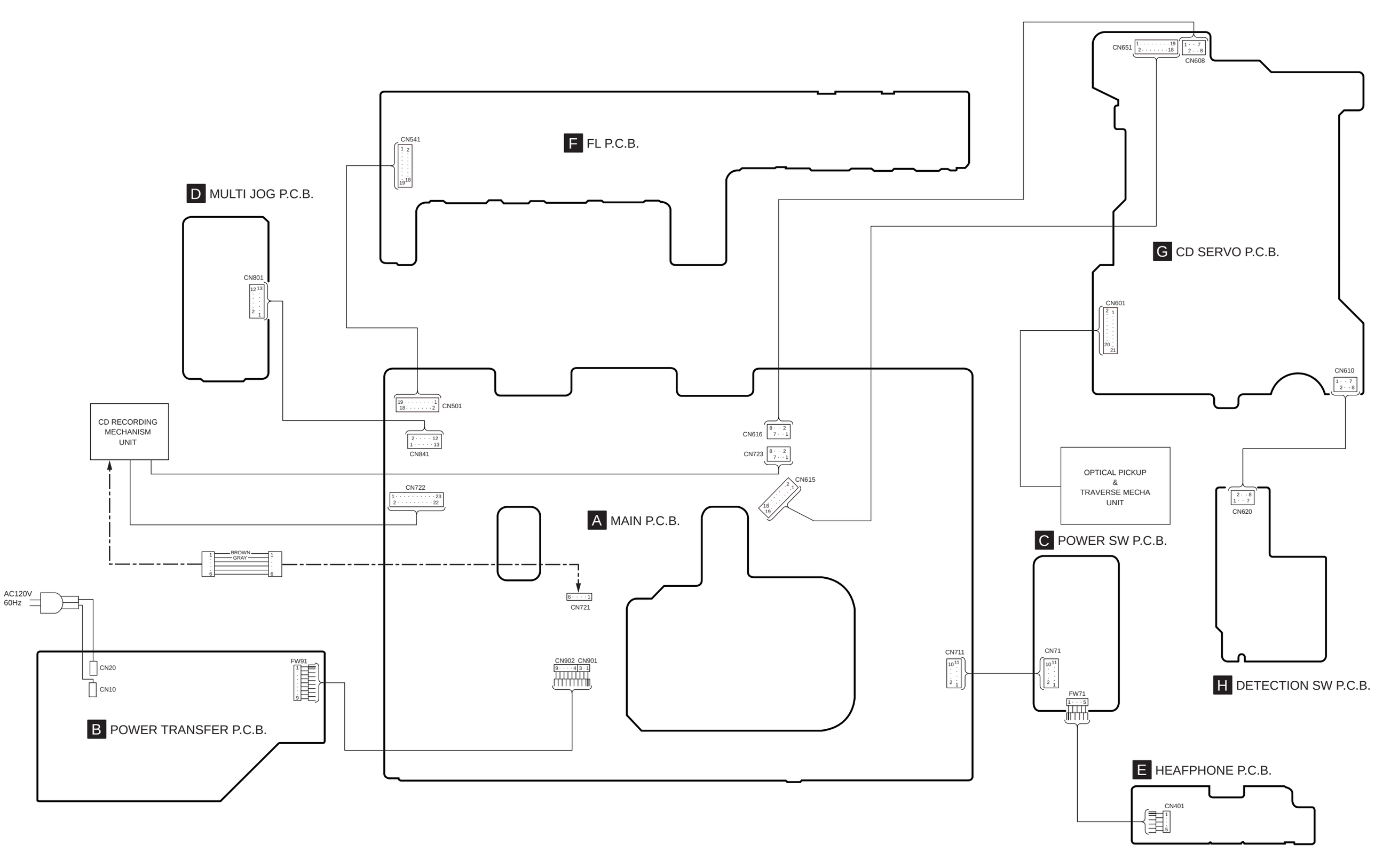
1.UNLESS OTHERWISE SPECIFIED.
ALL RESISTOR ARE 1/10W ± 5% METAL GLAZE RESISTOR.
ALL CAPACITORS ARE 50V CERAMIC CAPACITOR.
ALL RESISTANCE VALUES ARE IN OHM(Ω).
ALL CAPACITANCE VALUES ARE IN μF(P=pF).
ALL INDUCTANCE VALUES ARE IN μH
ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF)/RATED VOLTAGE (V).

2.DIGI Tr

DTA114EUA-X 10K
DTC114EUA-X 10K

SHEET 4/4

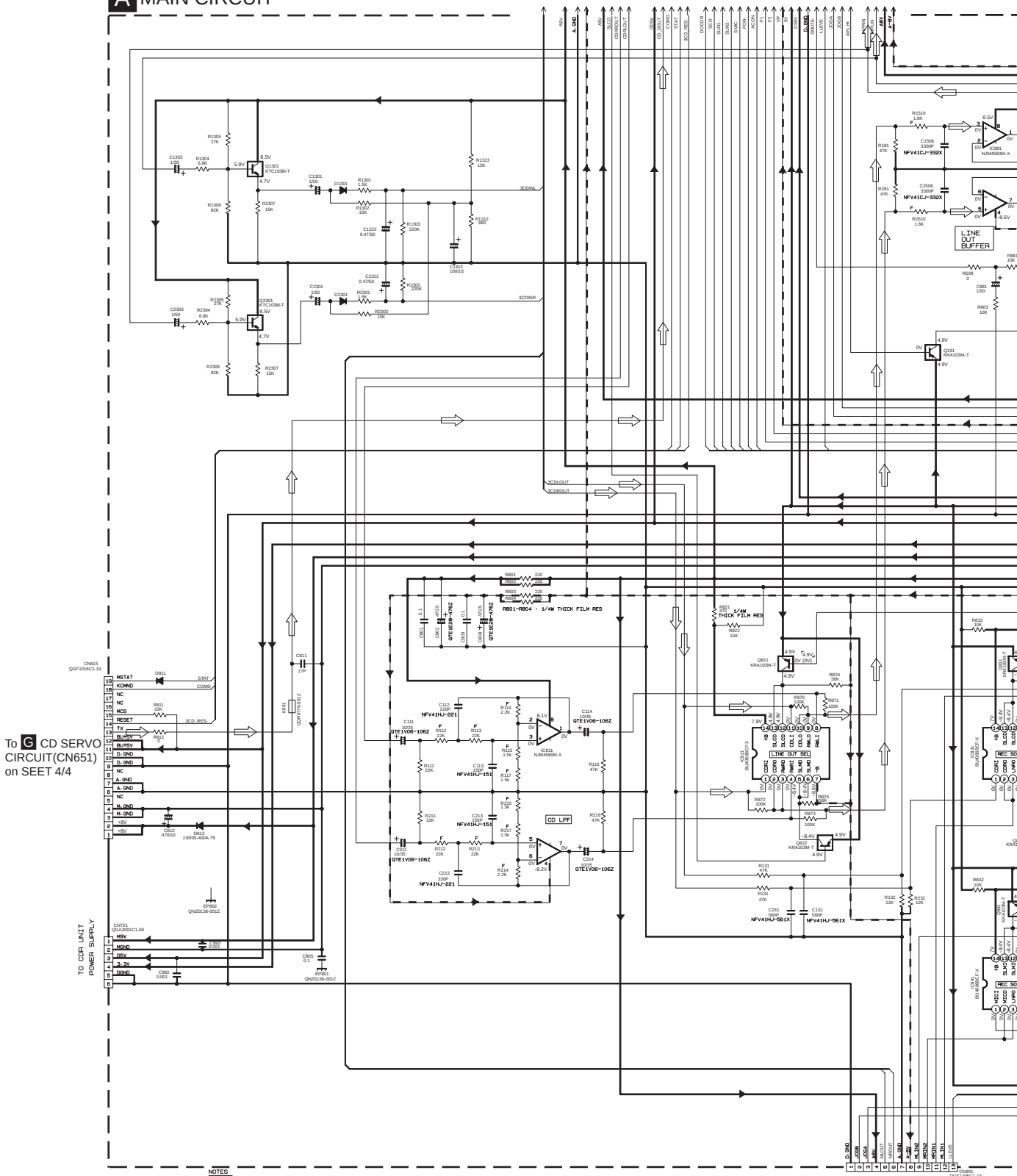
SL-PR300(PP)
CD SERVO, DETECTION SW SCHEMATIC DIAGRAM

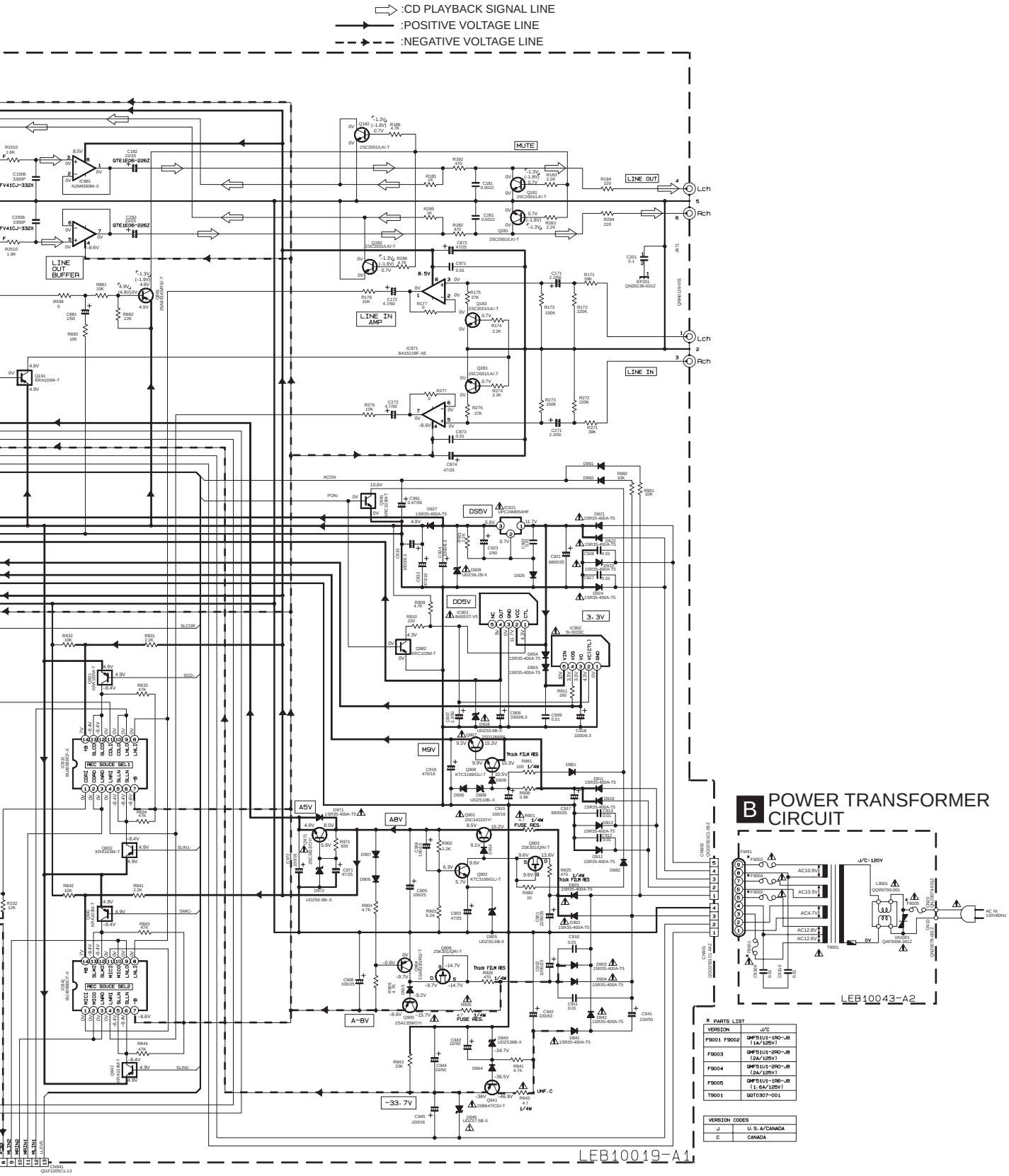

F FL P.C.B.
CN541
D MULTI JOG P.C.B.
CN801
CN651
CN608
G CD SERVO P.C.B.
CN601
CN610
CD RECORDING MECHANISM UNIT
CN501
CN841
CN616
CN723
CN615
CN722
OPTICAL PICKUP & TRAVERSE MECHA UNIT
CN620
A MAIN P.C.B.
C POWER SW P.C.B.
BROWN
GRAY
CN721
AC120V 60Hz
CN20
CN10
FW91
CN902 CN901
CN711
CN71
FW71
H DETECTION SW P.C.B.
B POWER TRANSFER P.C.B.
E HEAFPHONE P.C.B.
CN401

⚠ D945
UDZS5.6B ⟶ UDZS7.5B

A8728
SEP. 18. 2001

A MAIN CIRCUIT


To G CD SERVO CIRCUIT(CN651) on SEET 4/4
TO CDR UNIT POWER SUPPLY
To D MULTI JOG CIRCUIT (CN801) on SEET 3/4
LINE OUT BUFFER
CD LPF
THICK FILM RES
NOTES
UNLESS OTHERWISE SPECIFIED.
ALL RESISTORS ARE 1/10W or 1/16W ±5% THICK FILM CHIP RESISTORS.
ALL RESISTANCE VALUES ARE IN OHM(Ω).
ALL CAPACITANCE VALUES ARE IN μF(P=pF).
ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF)/RATED VOLTAGE (V).
ALL DIODES ARE DA114-X



* PARTS LIST

VERSION	J/C
F9001 F9002	GMF51U1-1R0-JB (1A/125V)
F9003	GMF51U1-2R0-JB (2A/125V)
F9004	GMF51U1-2R0-JB (2A/125V)
F9005	GMF51U1-1R6-JB (1.6A/125V)
T9001	QQT0307-001

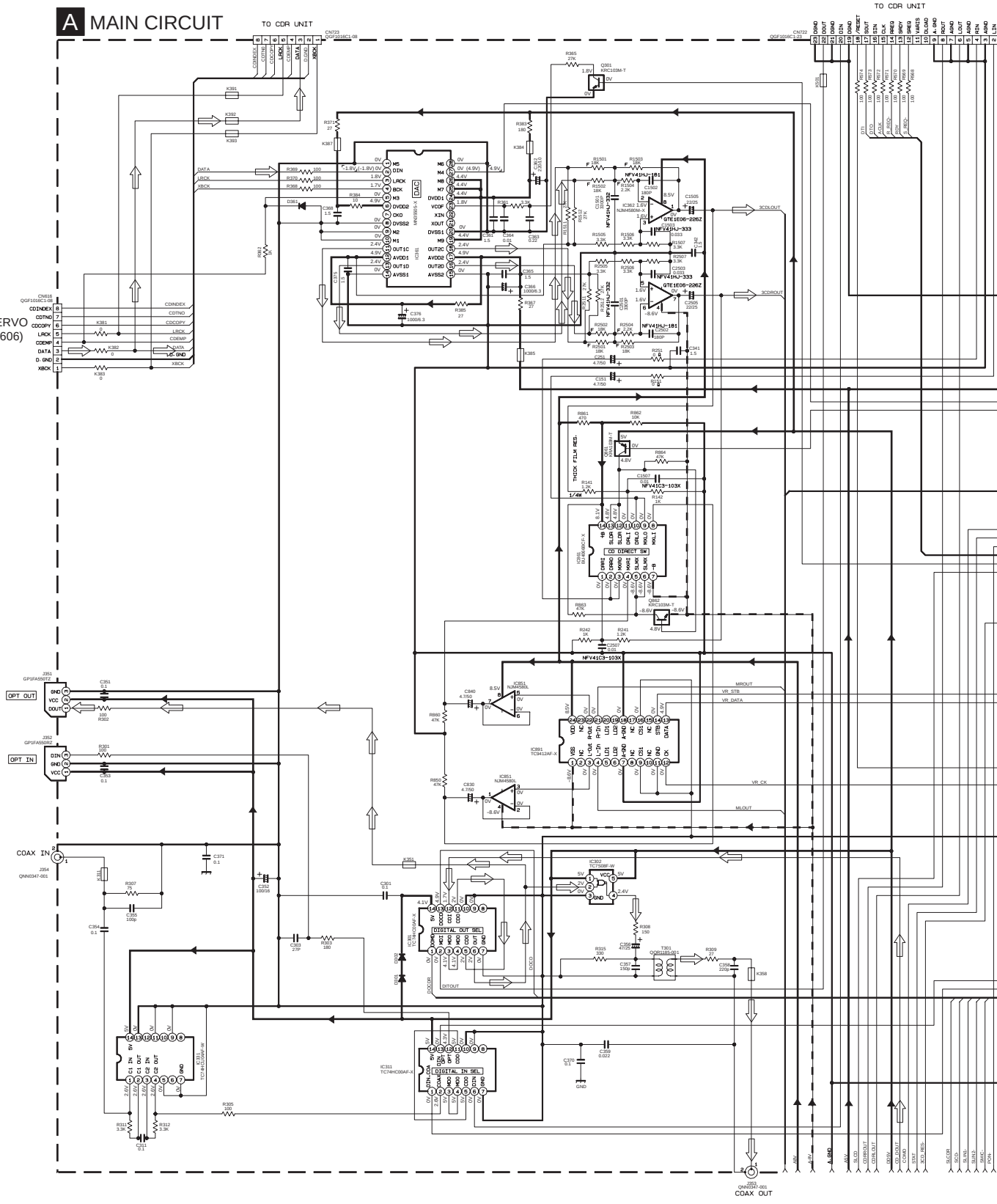
VERSION CODES	
J	U.S.A/CANADA
C	CANADA

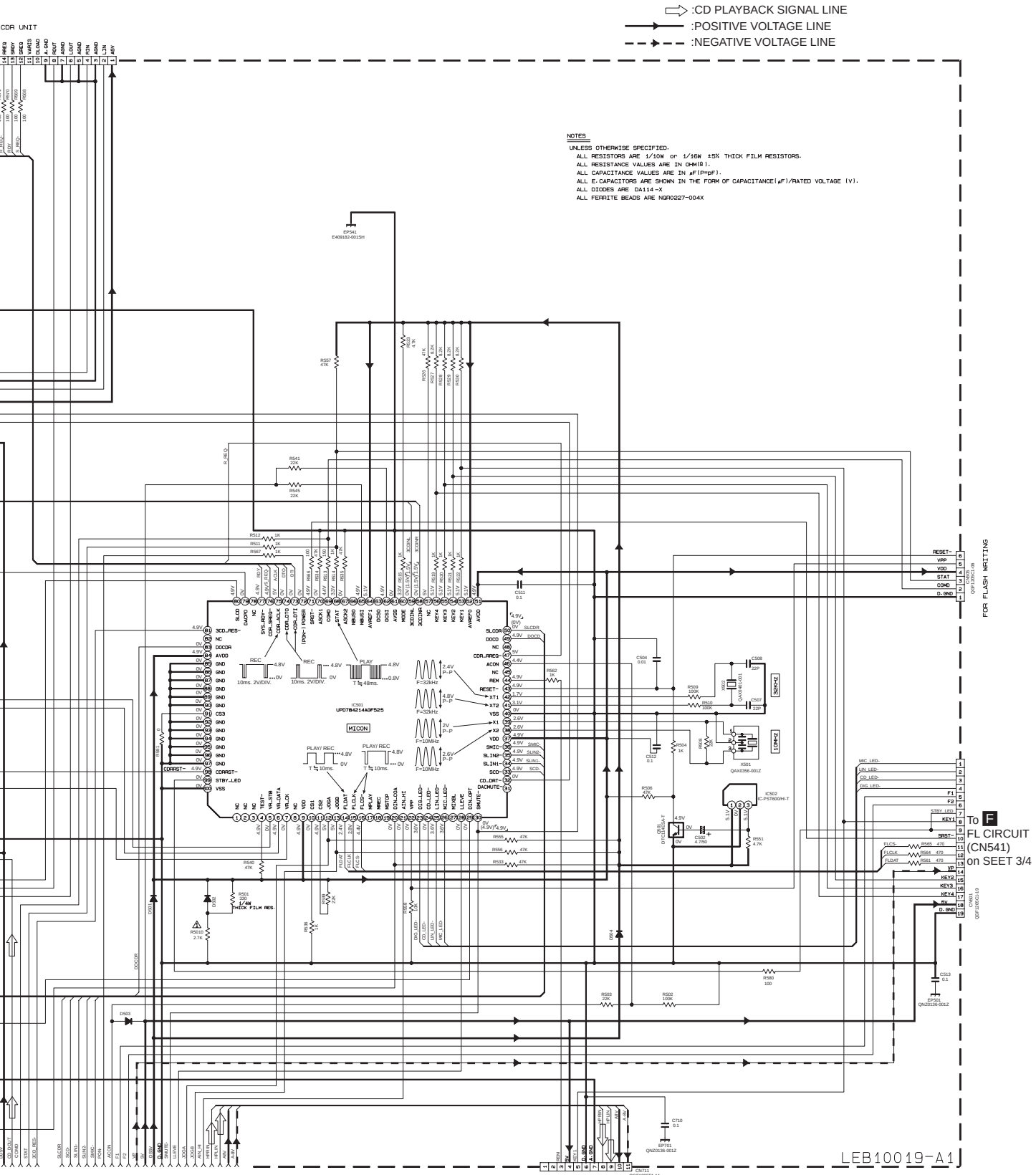
SHEET
1/4

SL-PR300(PP)
MAIN,POWER TRANSFORMER SCHEMATIC DIAGRAM

⚠ C501 Addition
A8728 SEP. 18. 2001

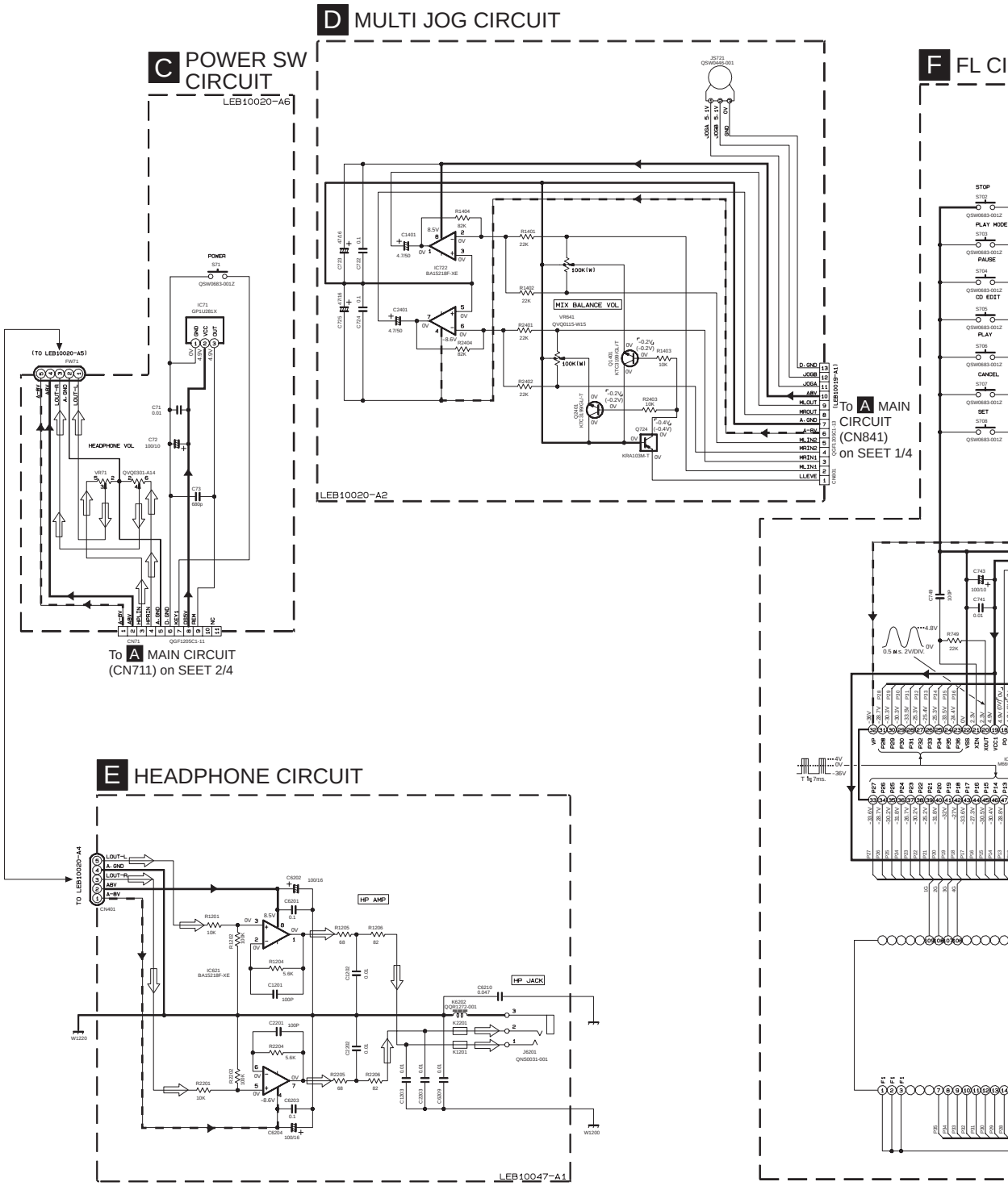
A MAIN CIRCUIT

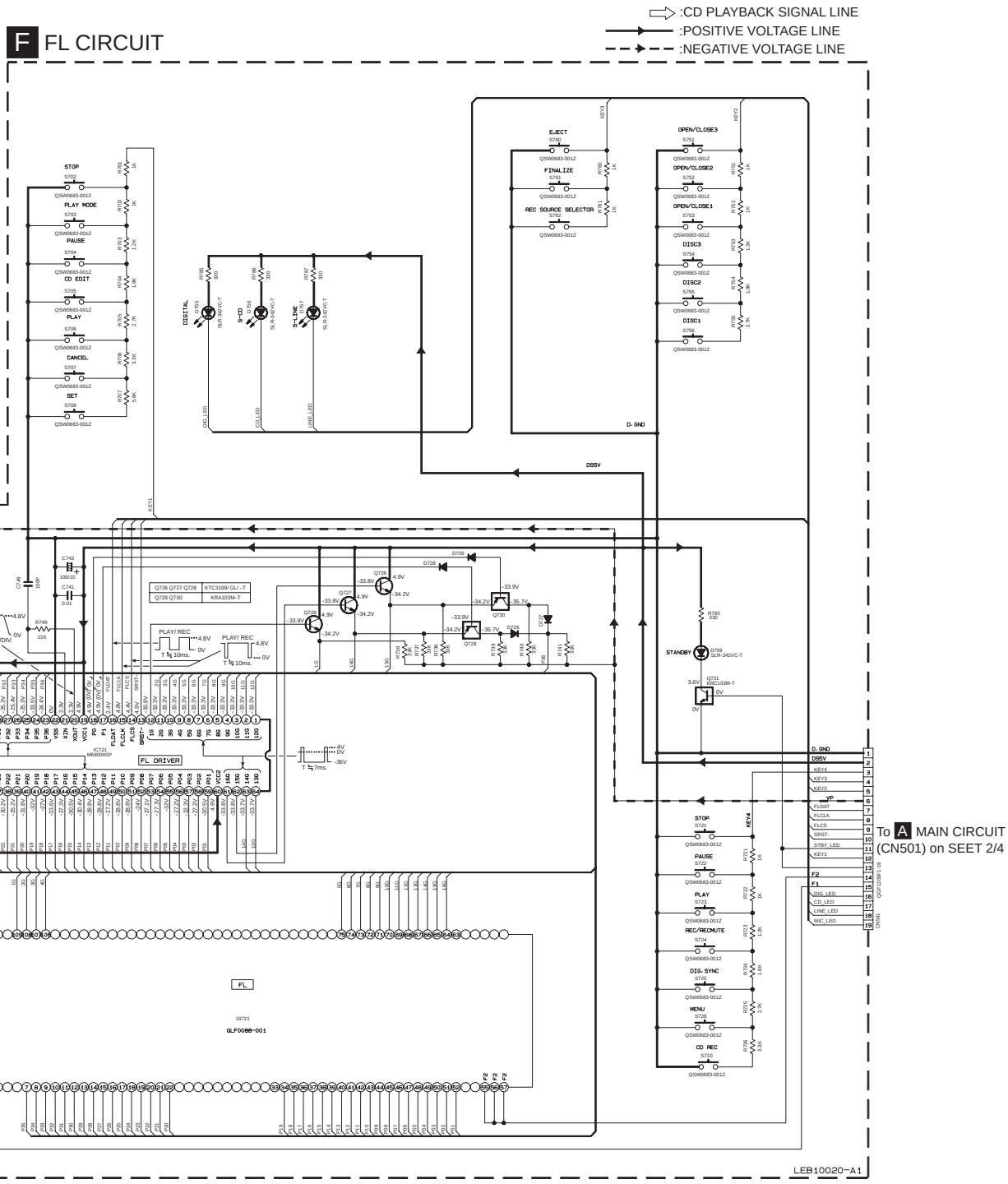



:CD PLAYBACK SIGNAL LINE
:POSITIVE VOLTAGE LINE
:NEGATIVE VOLTAGE LINE
CDR UNIT
NOTES
UNLESS OTHERWISE SPECIFIED.
ALL RESISTORS ARE 1/10W or 1/16W ±5% THICK FILM RESISTORS.
ALL RESISTANCE VALUES ARE IN OHM(Ω).
ALL CAPACITANCE VALUES ARE IN μF(P=pF).
ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF)/RATED VOLTAGE (V).
ALL DIODES ARE DA114-X
ALL FERRITE BEADS ARE NQR0227-004X
IC503
UP0784214AGF525
MICON
FOR FLASH WRITING
To F FL CIRCUIT (CN541) on SEET 3/4
To C POWER SW CIRCUIT(CN71) on SEET 3/4
LEB10019-A1

SHEET
2/4

SL-PR300(PP)
MAIN SCHEMATIC DIAGRAM


D MULTI JOG CIRCUIT
C POWER SW CIRCUIT
LEB10020-A6
F FL CI
POWER
S71
QSW0683-001Z
IC71
GP1U281X
GND
VCC
OUT
(TO LEB10020-A5)
FW71
HEADPHONE VOL
VR71
QVQ0301-A14
C71
0.01
C72
100/10
C73
680p
CN71
QGF1205C1-11
To A MAIN CIRCUIT
(CN711) on SEET 2/4
JS721
QSW0646-001
JOGA 5.1V
JOGB 5.1V
GND
IC722
BA15218F-XE
C1401
4.7/50
C2401
4.7/50
R1404
82K
R1401
22K
R1402
22K
R2401
22K
R2402
22K
100K(W)
MIX BALANCE VOL
VR641
QVQ0115-W15
R1403
10K
R2403
10K
R2404
82K
Q724
KRA103M-T
Q723
KTC3199GR-AT
Q722
KTC3199GR-AT
D.GND
JOGB
JOGA
ABV
MLOUT
MROUT
A.GND
A-BV
MLIN2
MRIN2
MRIN1
MLIN1
LLEVE
CN841
LEB10019-A1
To A MAIN CIRCUIT
(CN841)
on SEET 1/4
STOP
S702
QSW0683-001Z
PLAY MODE
S703
QSW0683-001Z
PAUSE
S704
QSW0683-001Z
CD EDIT
S705
QSW0683-001Z
PLAY
S706
QSW0683-001Z
CANCEL
S707
QSW0683-001Z
SET
S708
QSW0683-001Z
E HEADPHONE CIRCUIT
TO LEB10020-A4
LOUT-L
A.GND
LOUT-R
ABV
A-BV
CN401
HP AMP
HP JACK
IC621
BA15218F-XE
K6202
QQK1272-001
K2201
K1201
J6201
QNS0031-001
W1220
W1200
LEB10047-A1



NOTES

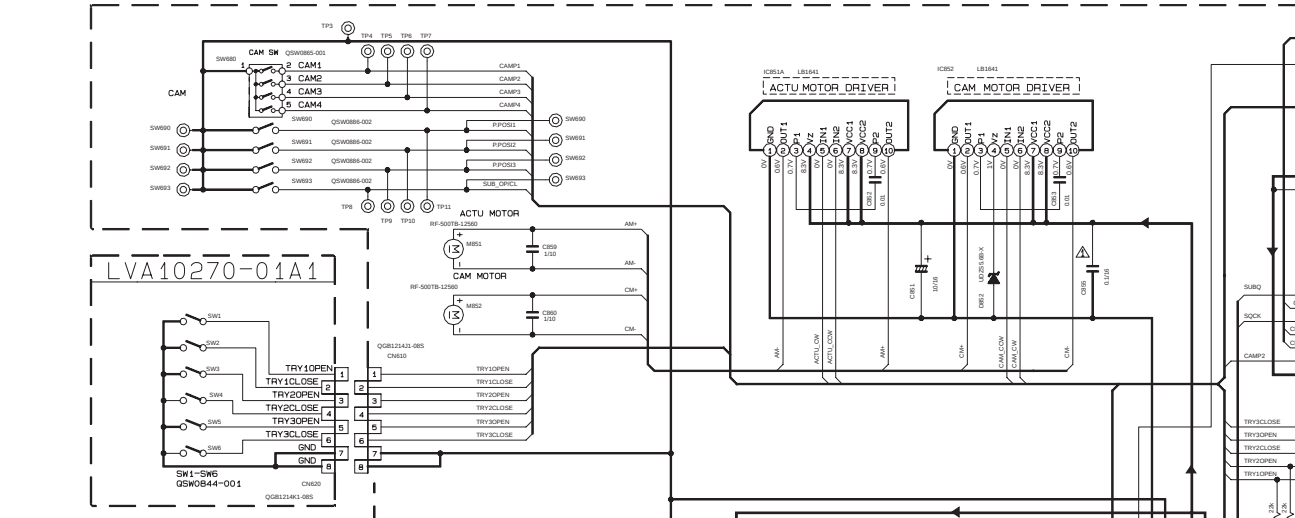
UNLESS OTHERWISE SPECIFIED.
- ALL RESISTORS ARE 1/10W or 1/16W ±5% THICK FILM RESISTORS.
- ALL RESISTANCE VALUES ARE IN Ω=W(Ω).
- ALL CAPACITANCE VALUES ARE IN μF(P=pF).
- ALL E.CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μF)/RATED VOLTAGE (V).
- ALL DIODES ARE DA114-X

SHEET
3/4

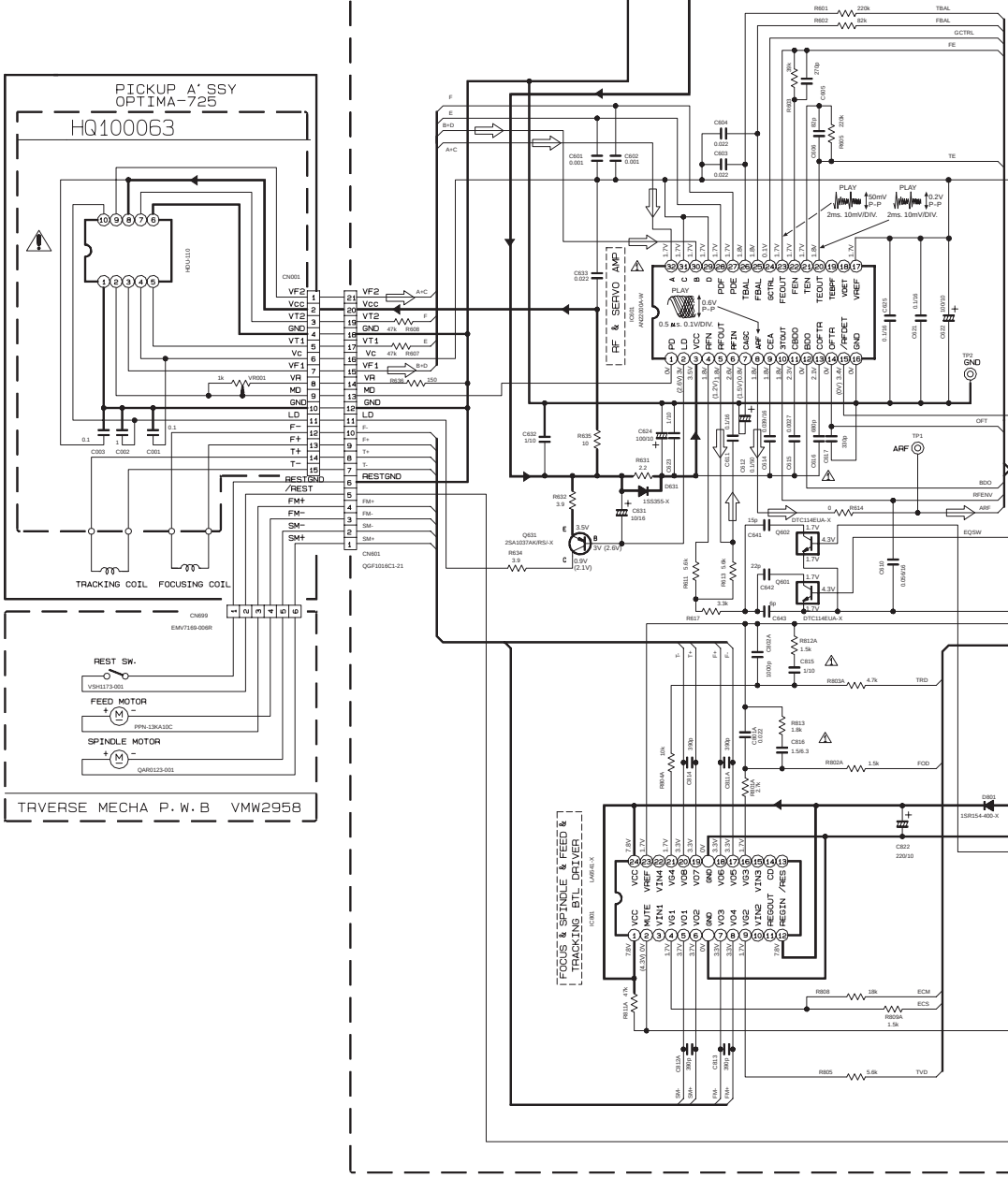
SL-PR300(PP)
POWER SW,MULTI JOG,HEADPHONE,FL SCHEMATIC DIAGRAM

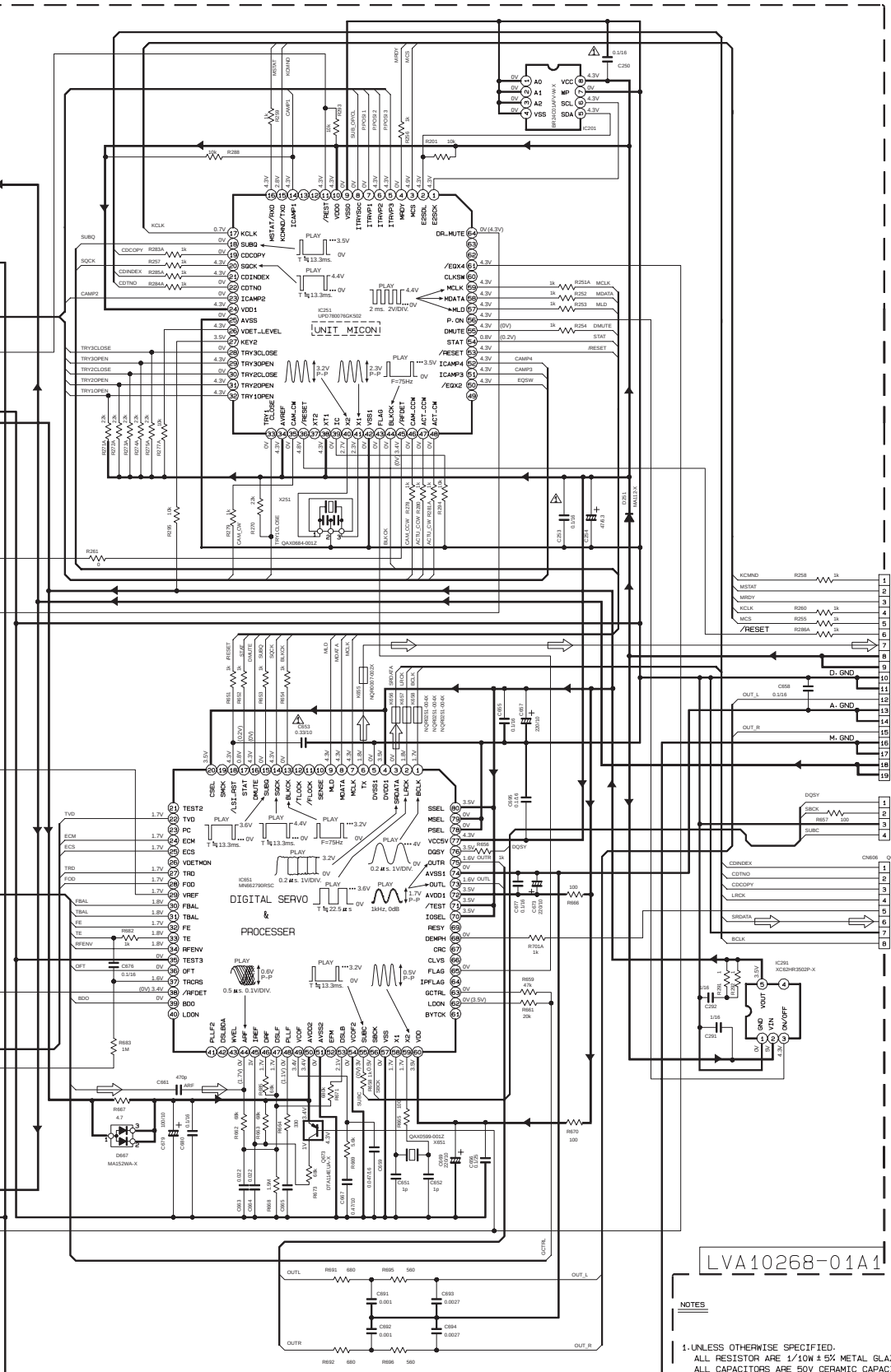
G CD SERVO CIRCUIT

:POSITIVE VOLTAGE LINE :CD PLAYBACK SIGNAL LINE



H DETECTION SW CIRCUIT

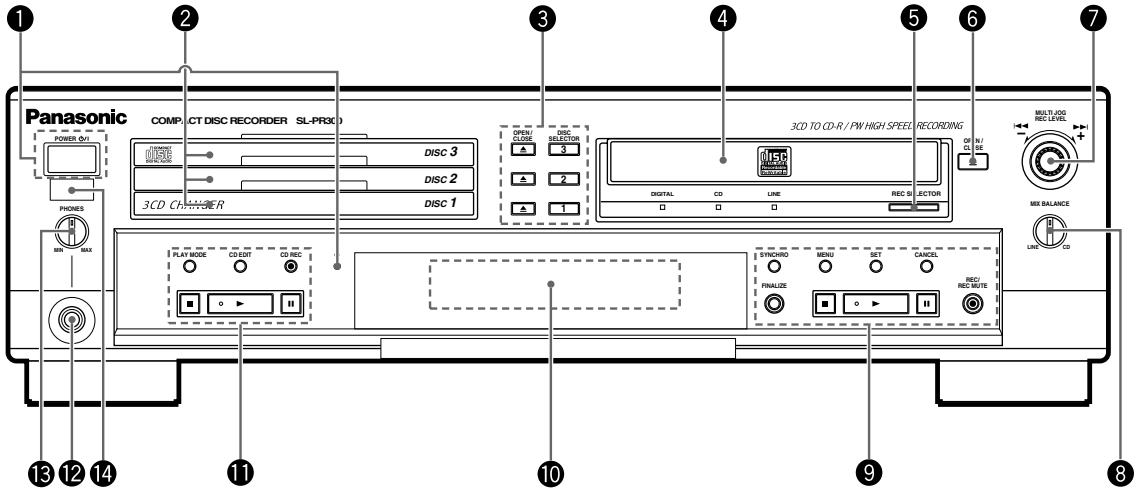




SHEET
4/4

SL-PR300(PP)
CD SERVO, DETECTION SW SCHEMATIC DIAGRAM

Main Unit



Description (For details, refer to page in parentheses.)

❶ POWER ⏻/I button and STANDBY lamp

Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power. When the unit is connected to the AC mains supply, the STANDBY lamp lights up in standby mode and goes out when the unit is turned on.

❷ CD Trays 1, 2, and 3 (numbered from bottom to top)

Load CDs in these trays for 3-CD changer playback.

❸ DISC SELECTOR and OPEN/CLOSE ⏏ Buttons

Press to select the tray(s) that you want to play when CDs are loaded in the 3-CD changer. Icons show the currently selected trays in the display window. Use the OPEN/CLOSE ⏏ buttons to open and close the corresponding disc trays.

❹ CDR Disc Tray

Load a recordable CD-R or CD-RW in this tray for recording. CD playback is also possible using this tray.

❺ REC SELECTOR and Source Selection Lamps

Use to select the type of source the signal is to be recorded from. The selected source is indicated by activation of the lamp under the source name (located to the left).

❻ OPEN/CLOSE ⏏ Button

Press to open and close the CDR disc tray.

❼ MULTI JOG/REC LEVEL Control

Use this control for selecting and setting use options, changing clock settings, skipping forward/backward through tracks on a CD, etc. Also use it to adjust the level of the source signal when recording discs.

❽ MIX BALANCE Control

Use the MIX BALANCE control to adjust the mixing levels of independent signals being recorded simultaneously.

❾ CDR Control Operation Buttons

SYNCHRO:	Press to select synchronized recording.
MENU:	Press to enter the menu options.
SET:	Press to enter an operation or selection.
CANCEL:	Press to cancel an operation or selection.
FINALIZE:	Press to finalize a CD-R/RW disc when recording has been completed.
STOP ■:	Press to stop recording or playing of the CDR.
PLAY ►:	Press to start playing, or resume recording if the CDR is in the recording pause mode.
PAUSE ❚❚:	Press to pause play or recording.
REC/ REC MUTE:	Use to start recording, or when recording to mute the recording signal.

❿ Display Window

Displays operation modes and system information.

⓫ CD Control Operation Buttons

PLAY MODE: Press repeatedly to select one of the play modes for the 3-CD changer.

CD EDIT: Press to select either Listening Edit or Program Edit recording mode.

CD REC: Press to perform synchronized recording of the currently selected CD in the 3-CD changer.

STOP■: Press to stop play of the selected disc in the 3-CD changer.

PLAY►: Press to start play of the selected disc in the 3-CD changer.

PAUSE❚❚: Press to pause play of the selected disc in the 3-CD changer.

⓬ Headphones Jack

Use this jack to connect headphones (not supplied) to the unit.

⓭ PHONES LEVEL (Volume) Control

Use this to adjust the volume being output to headphones connected to the unit.

Note

Avoid listening for prolonged periods of time to prevent hearing damage.

⓮ Remote Control Sensor

This sensor receives commands from the remote control.

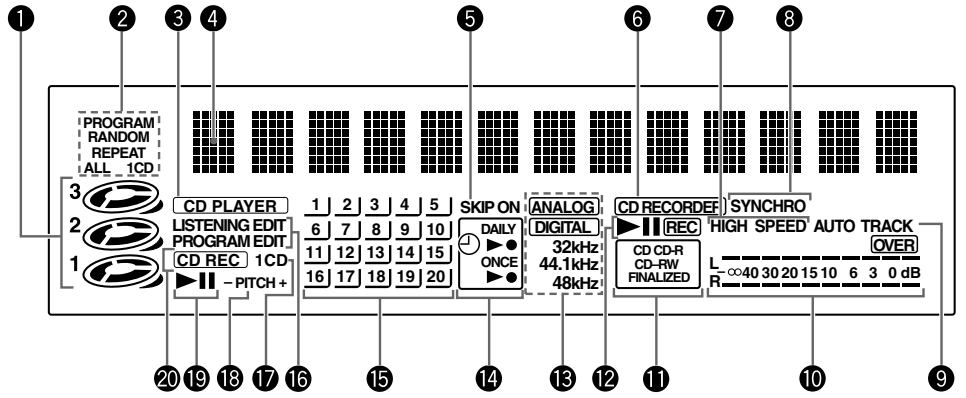
Note

In this manual, procedures using buttons on the front panel of the unit are depicted by the name of the button in capital letters with the button illustration immediately after it. Procedures using the buttons on the remote control are depicted by the button illustration with the name of the button in small letters and parentheses immediately after it.

Example: CD Control PAUSE ❚❚ button (Front panel)

❚❚ (pause) button (Remote control)

Display Window



❶ CD numbers and play status displays
Indicate whether discs are loaded in any of the 3-CD changer disc trays, which disc is currently selected, and the operation status of the current disc.

❷ PLAY MODE indicators
Light according to which play mode has been selected.

❸ CD PLAYER indicator
Lights when the 3-CD changer is selected for play.

❹ Information display
Displays track, time, and operation information.

❺ SKIP ON indicator
Lights when the currently selected disc contains SKIP TRACK markers.

❻ CD RECORDER indicator
Lights when the CDR has been selected for play or recording.

❼ HIGH SPEED indicator
Lights when the high-speed (4x, 2x) recording function is being performed.

❽ SYNCHRO (synchronized) recording indicator
Lights to indicate synchronized recording is on.

❾ AUTO TRACK indicator
Lights when automatic track marking has been turned on.

❿ Level meters
Indicate the levels of the right and left channels during playback and recording operations. When the input signal exceeds 0 dB, the OVER indicator lights.

⓫ Disc format indicators
Light to indicate the type of disc that is loaded in the CDR, and whether or not it is finalized.

⓬ CDR deck operation indicators
Light to indicate the operation mode of the CDR.

⓭ Recording type indicators and sampling frequency indicators
Light to indicate whether the recording is analog or digital. During digital recording, the appropriate frequency indicator lights to indicate the sampling frequency of the source being played back.

⓮ Timer operation indicators
Indicate that a Timer play or recording function has been set, and whether it is set for everyday or one-time operation.

⓯ Music calendar
Indicates the number of tracks on the currently selected CD or CDR, and the track on the disc that is being played or recorded.

⓰ EDIT recording indicators
Indicates if the listening edit or program edit mode is being used.

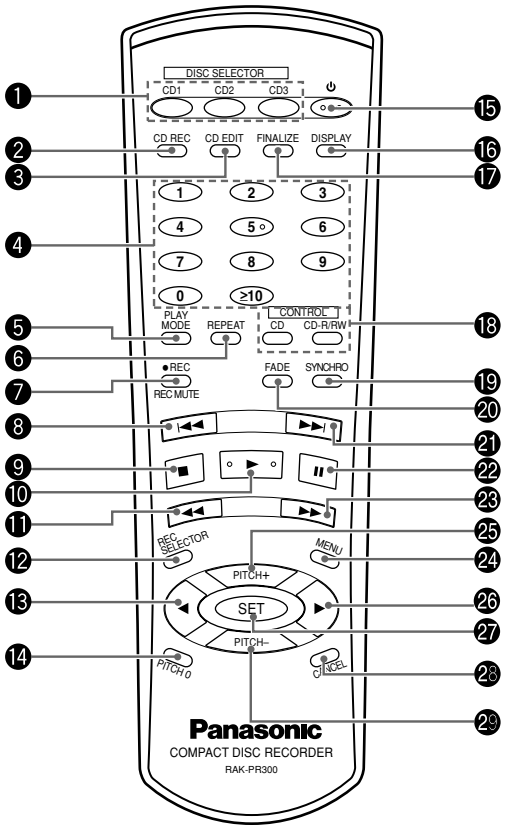
⓱ 1CD indicator
Lights at the time either the 1CD or 1 Track recording mode is selected. Also lights together with REPEAT and 1CD of the PLAY MODE indicators if REPEAT 1 is selected when setting the repeat play mode.

⓲ PITCH (+/–) indicators
Indicate that the pitch of CD play has been adjusted in one direction or the other.

⓳ 3-CD changer operation indicators
Light to indicate the operation mode of the 3-CD changer.

⓴ CD REC indicator
Indicates a CD loaded in the 3-CD changer is being recorded by the CDR.

Remote Control



When following the procedures in this manual, the buttons on the remote control have the same function as the corresponding buttons on the main unit.

❶ CD1, CD2, CD3 Disc Selection Buttons
Use these to select the disc(s) to be played by the 3-CD changer.

❷ CD REC Button
Press to start the CD REC function.

❸ CD EDIT Button
Press repeatedly to select Listening Edit or Program Edit functions.

❹ Number Buttons
Press to select tracks for playback.

❺ PLAY MODE Button
Press repeatedly to select a play mode for the 3-CD changer.

❻ REPEAT Button
Press repeatedly to select one of the repeat play modes.

❼ ● REC/REC MUTE Button
Press to put the unit into recording pause mode from CDR stop mode.
Press to mute recording signal during recording.

❽ I◄◄ (reverse skip) Button
Press to skip back to the beginning of previous tracks.

❾ ■ (stop) Button
Press to stop playback of the currently selected disc in the 3-CD changer or stop playback/recording of the disc in the CDR.

❿ ► (play) Button
Press to play the currently selected CD.

⓫ ◄◄ (reverse) Button
Press to perform fast reverse search of the CD currently being played.

⓬ REC SELECTOR Button
Press to select the source for recording to the CDR.

⓭ ◄ MULTI JOG Control (menu) Button
Press to select menu operations.

⓮ Pitch 0 Button
Press to restore playback speed of the CD player to normal.

⓯ POWER ⏻ Button
Press to turn the power of this unit on or to put it in the standby mode.

⓰ DISPLAY Button
Press to change the type of information that is shown in the information display.

⓱ FINALIZE Button
Press to start finalization of a CD-R or CD-RW.

⓲ CD and CDR Deck Selection Buttons
Press to select the deck you want to use, 3-CD changer or CDR.

⓳ SYNCHRO Button
Press to select synchronized recording.

⓴ FADE Button
Press to create fade-in and fade-out of data being recorded.

㉑ ►►I (forward skip) Button
Press to skip forward to other tracks on the disc.

㉒ II (pause) Button
Press to pause playback of the currently selected disc.

㉓ ►► (forward) Button
Press to perform fast forward search of the currently selected CD.

㉔ MENU Button
Press to access Menu options.

㉕ PITCH+ Button
Press to increase the speed of CD playback.

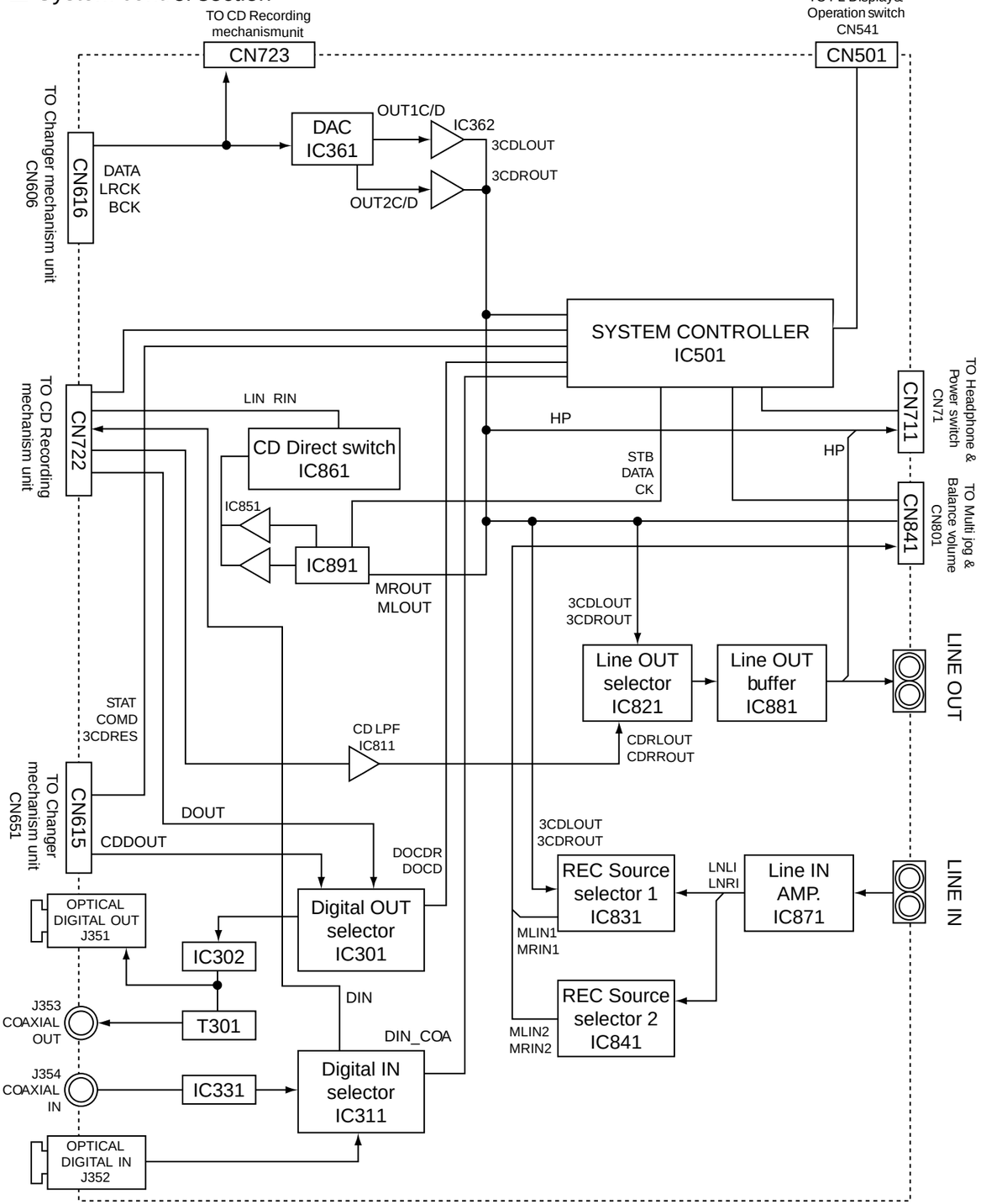
㉖ ►MULTI JOG Control (menu) Button
Press to select menu operations.

㉗ SET Button
Press to enter a selection on the menu. Also used for registering tracks in the program mode.

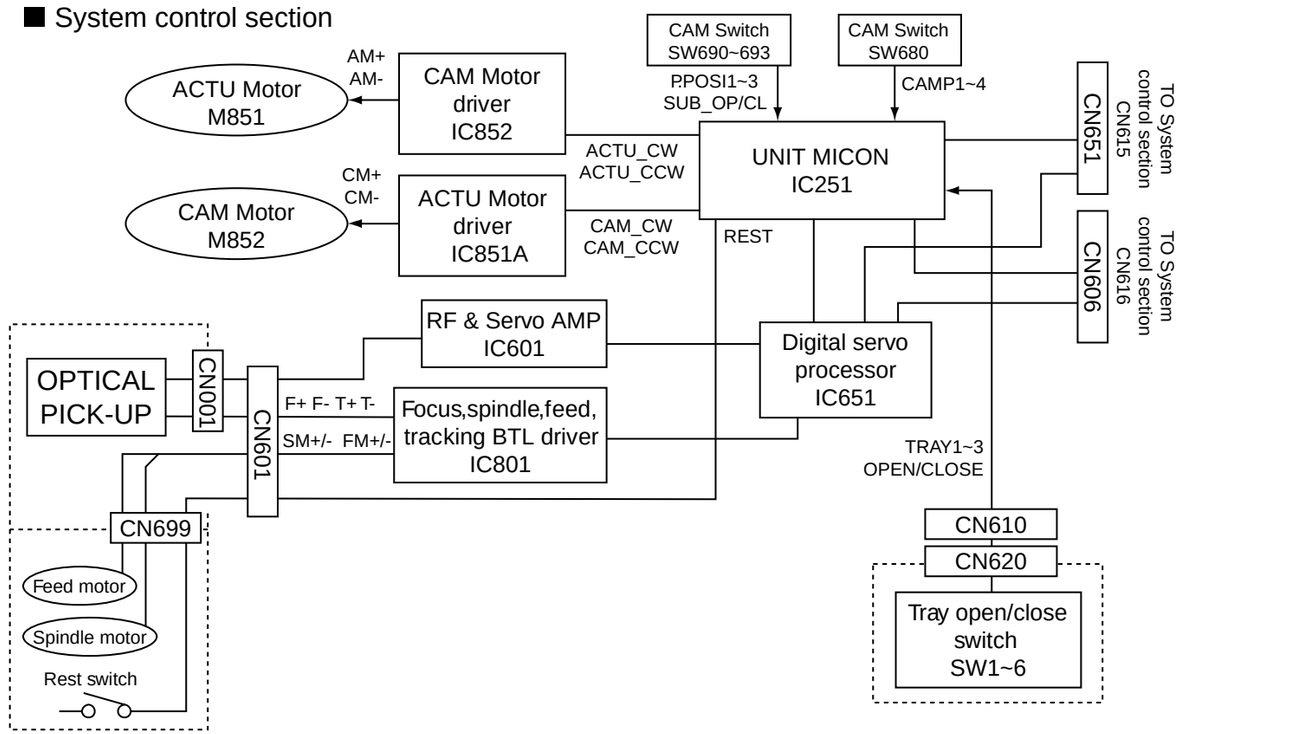
㉘ CANCEL Button
Press to cancel an operation.

㉙ PITCH – Button
Press to decrease the speed of CD playback.

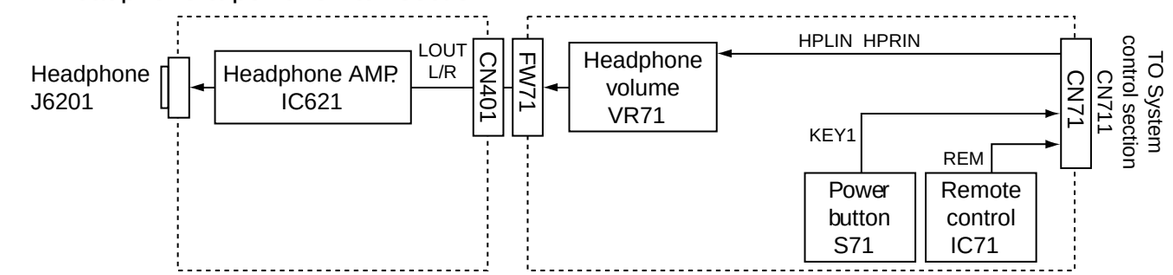
■ System control section



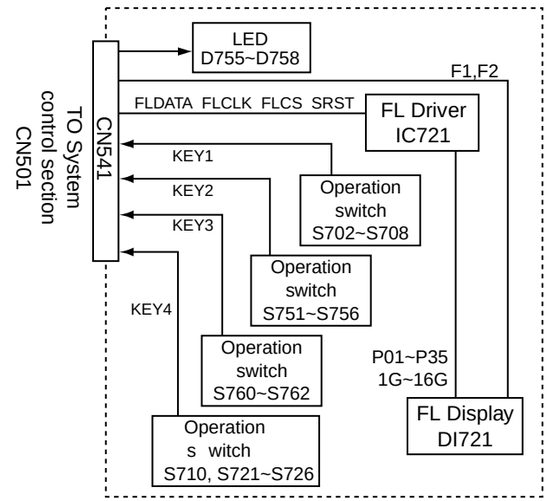
■ System control section



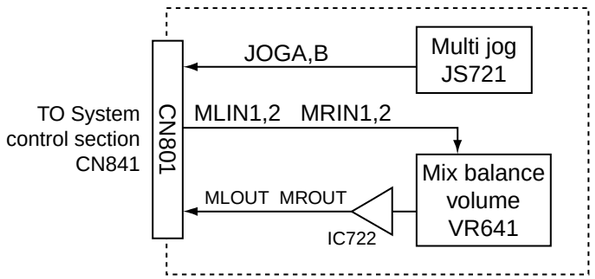
■ Headphone & power switch section



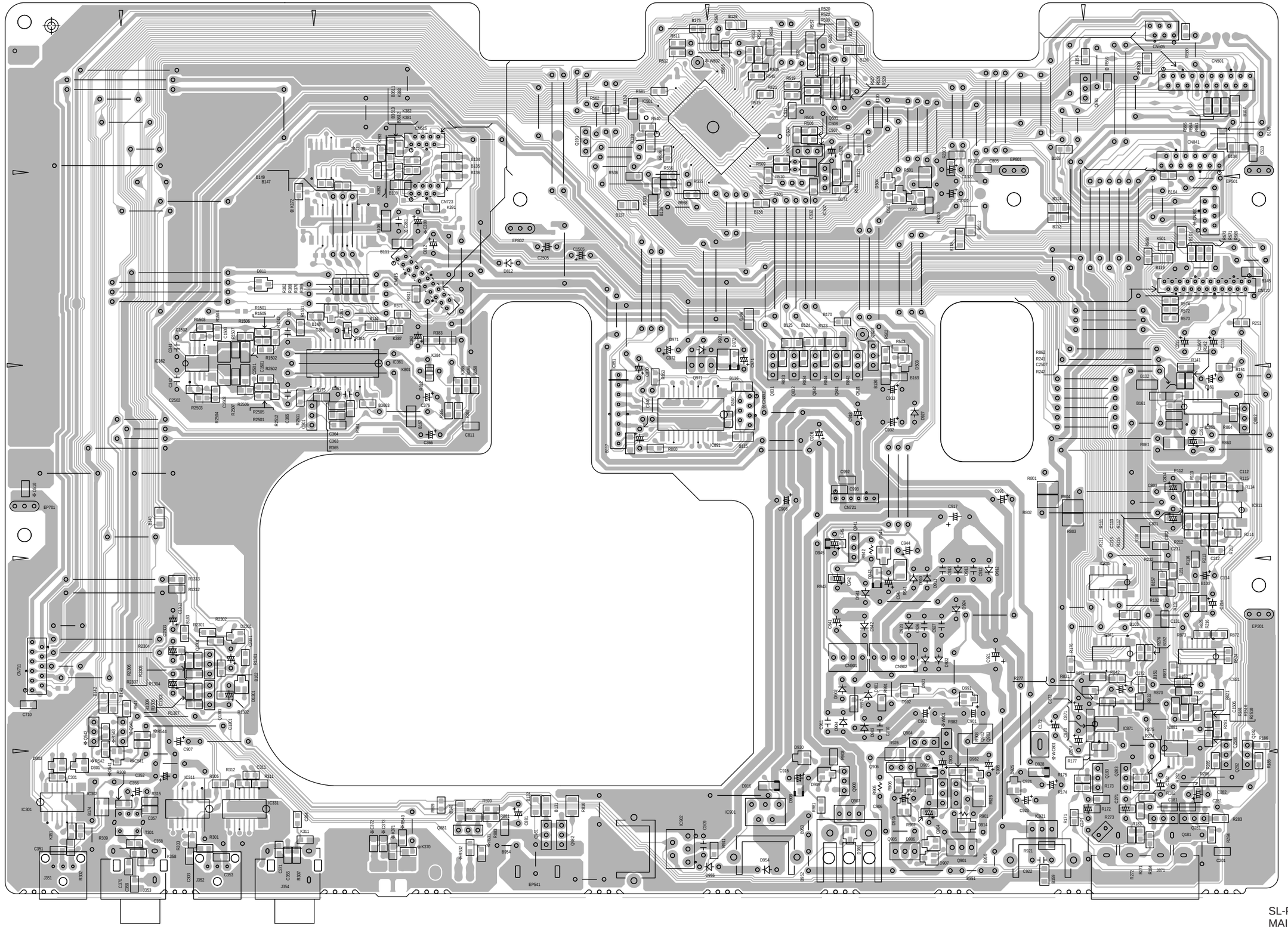
■ FL Display & Operation switch section



■ Multi jog & Balance volume section



A MAIN P.C.B.



* :These parts haven't been used on the circuit.
(These parts are not mentioned in the "Schematic diagram" and the "Replacement parts list".)

SL-PR300(PP)
MAIN P.C.B.